DOMESTIC ENGINEERING

PLUMBING HEATING LIGHTING MILL SUPPLIES

Weekly, $1 a Year. Chicago, Saturday, October 3, 1908. Whole No. 825. Vol. XLV. No. 1.

A new generation, knowing nothing, has constantly to be taught everything. This explains what, to many of us, is a wonder—the presence of such a vast number of people who are ignorant. They are those of the recurring generations who have never been taught.

* * *

Don't fuss about your school tax. We haven't taught many kids very much, and what we have taught may have been half wrong. Let us honor the school teacher and foot the bills uncomplainingly.

* * *

Even with the aid of our perfectly splendid array of educational institutions scattered all over our land we only spend one-fifth as much for education as we do for war preparations and equipment, and that, too, in a time of profound peace. What splendid barbarians we are yet, to be sure!

* * *

But let's be sure of one thing, at least. Let's see that the boy has a chance to learn the plumbing and heating trades and learn them well. It's an awful condition when private greed rather than public interest is the motive behind a trade school; when the dollars received in tuition form the only reason for a school's existence.

* * *

But that's going to be so, and alluring and deceptive advertisements will continue to be published, promising the ambitious but ignorant boy a knowledge of a self-supporting occupation in a miraculously short space of time, until the trade organizations get sufficiently alert to the necessity of sound teaching.

* * *

Education—the debt of the learned to the uneducated—is a public function, and when privately bestowed for money should be zealously watched by the people's accredited servants—the government.

* * *

A good friend writes: "One-half of the world is engaged in correcting the erroneous impressions of the other half." He knew what he was talking about, because a plumber, in attaching a gas-burner for him, had carelessly filled the gas passage with white lead, and it took four people and at least a day's work to correct the mistake.

* * *

It is amusing that the half busily engaged in correcting **your** mistakes provide a living for you in correcting theirs. So this diverting game of battledoor and shuttlecock goes merrily on, and each player thinks he is doing something worth while.

* * *

And he is, too, if he does what he does right and tells the truth about what he knows. And, along with your truthful utterances, let there be some tra-ta-ta-ta-ta-ta-taas from your own slide trombone about your ability to do good work. The candle under the bushel feels snug and comfortable, but burns out unnoticed and accomplishes no good purpose.

* * *

You cannot escape the critical judgment of your friends, but you should be happy if you are decently talked about. When you cause no conversation you ought to arrange for a lot in the cemetery, for you are dying of dry rot.

* * *

Here is a man named Buck, who is in the judgment seat, and this is what he says about you:

"It is a sad mistake, my dear Friend-Who-Buys-to-Sell-Again, you do not buy the cheap, ugly things because the people demand it. You buy them because your previous bad buying has falsely brought you to believe that this is what the people want. The people have bought your shoddy stuff because they could find nothing else to buy—and this bad buying has become a habit and a bad one.

"If you hold to the contrary belief you have in reality stood your business on its head and pushed its kicking heels up into the air. You have gotten the thing topsy-turvy."

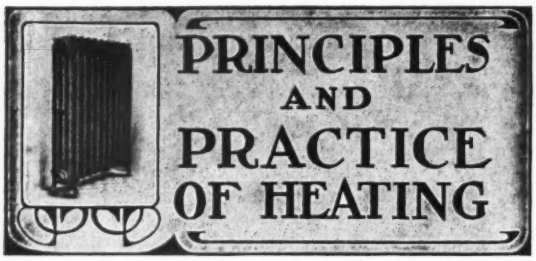
* * *

Harry W. Ford hits off our idea like a clay bird in a shooting gallery:

"It seems to me that your point of view is that business is not one thing and life something else, but that they are one; that business is really the best part of a man's life, and that therefore, if he does not get pleasure out of his work, out of doing it well, and doing it for its own sake, he is not likely to have much pleasure in life."

* * *

W. Wright Beck says: "The merchant who thinks he will lose business because his competitor gives trading stamps or premiums and he does not, will get more results for his money than for any that he has spent in a long while if he will take a railroad train and visit either of the cities mentioned. If you want to create a sensation in your town, spend the money that you give for these different premiums in newspaper advertising and if necessary a sacrifice of profits on a few specials. The biggest boost any merchant can have is to give his customers the worth of their money—and then howl about it. For the advertising to bring results, you must have what you advertise."



Modern Steam Heating Illustrated.—IX*

BY B. F. RABER
La Fayette, Ind.

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False Water Lines in Steam Heating Systems.

Perhaps nothing is more important in the successful and particularly the *quiet* operation of steam heating plants than the position of the water line in the returns. Whenever, either by design, accident, or necessity, large areas of condensation are exposed to live steam, cracking or water hammer is an almost inevitable result, and this seems especially true when the condensation is pocketed in a thin strip along the bottom of the so-called dry-returns. Naturally the argument will be raised that dry-returns are undesirable, and should not be installed. This is certainly a good principle, but it must be remembered that heating engineers or steamfitters cannot always control conditions, which may be such that returns above the water line of the boiler are a necessity.

Plate IX, on the opposite page, illustrates a case in point, where the boiler is placed in a sub-basement, or pit, and the returns, shown on the extreme right and left centers, are of necessity above the entire boiler, and certainly above the normal water line. Without special provision, then, these returns would be "dry"—that is, at least partially filled with steam and open to the above mentioned disadvantage of dry-returns.

If, now, the condensation can be backed up in the returns until it fills a foot or two of the drops from the radiators, it is evident that the area of condensation exposed to the steam will be much less; in fact, it will be reduced to simply the sum of the cross-sectional areas of the drops from the radiators. This, of course, would minimize the water hammer trouble and provide a water seal for each drop from the floors above. It is with methods of backing up the water in this manner, that is, with methods of creating *false water lines,* that this article deals.

The plate shows two methods of establishing false water lines, the main difference being one of piping details, rather than one of principle. Of course, all that is necessary to back up the condensation is to provide a loop in the return of requisite height, and over which the condensed steam must pass. Of the two methods shown, the one on the right has several points of excellence over that shown on the left.

On this right-hand side, the return is shown connected to a "tie," and thus divided into two branches, each vertical. The lower branch connects through a globe valve direct to the bottom of the boiler. The upper branch, it will be seen, rises to the height at which it is desired to establish the false water line and doubles back upon itself, thus forming a loop or by-pass around the globe valve, and entering the lower branch, as shown. It will be noticed that the top of the by-pass is connected to the main feed or steam line. This connection, or "balance pipe," as it is sometimes called, serves to equalize the pressures in return and feed, and guard against the possibility of the loop acting as a syphon and completely draining the returns if once a flow is started. With the connections as shown, however, it would be difficult to produce a syphon action unless the horizontal pipe at the top of the loop were made too small. As it is, the condensation rises to the lowest point of the interior surface of this horizontal connection and then trickles across in a fine stream and down the left-hand side of the loop, and hence into the bottom of the boiler. Care should be exercised, then, that this horizontal connection be at least as large as the return, and if it is desired to be on the safe side, this piece may well be increased a pipe size or two above that of the return. In peculiar connections of this kind, proper precaution must always be observed to avoid any syphon action, for in this case particularly it is evident that should such action be started, the very object for which the loop was built would be frustrated by the periodic draining of the entire return main.

On the left-hand side of the plate is again shown a method of establishing a false water line. Although differing in its general make-up from the one just described, it is, fundamentally, very similar. The return divides at the "tee" and one branch goes downward through a globe valve and directly to the boiler. The other branch rises to the height of the false water line, then drops and enters the

* Previous installments in this series of articles were published March 7, 21, April 4, 18, May 2 and 30, July 11 and August 22. These back numbers can be obtained for 10 cents a copy.

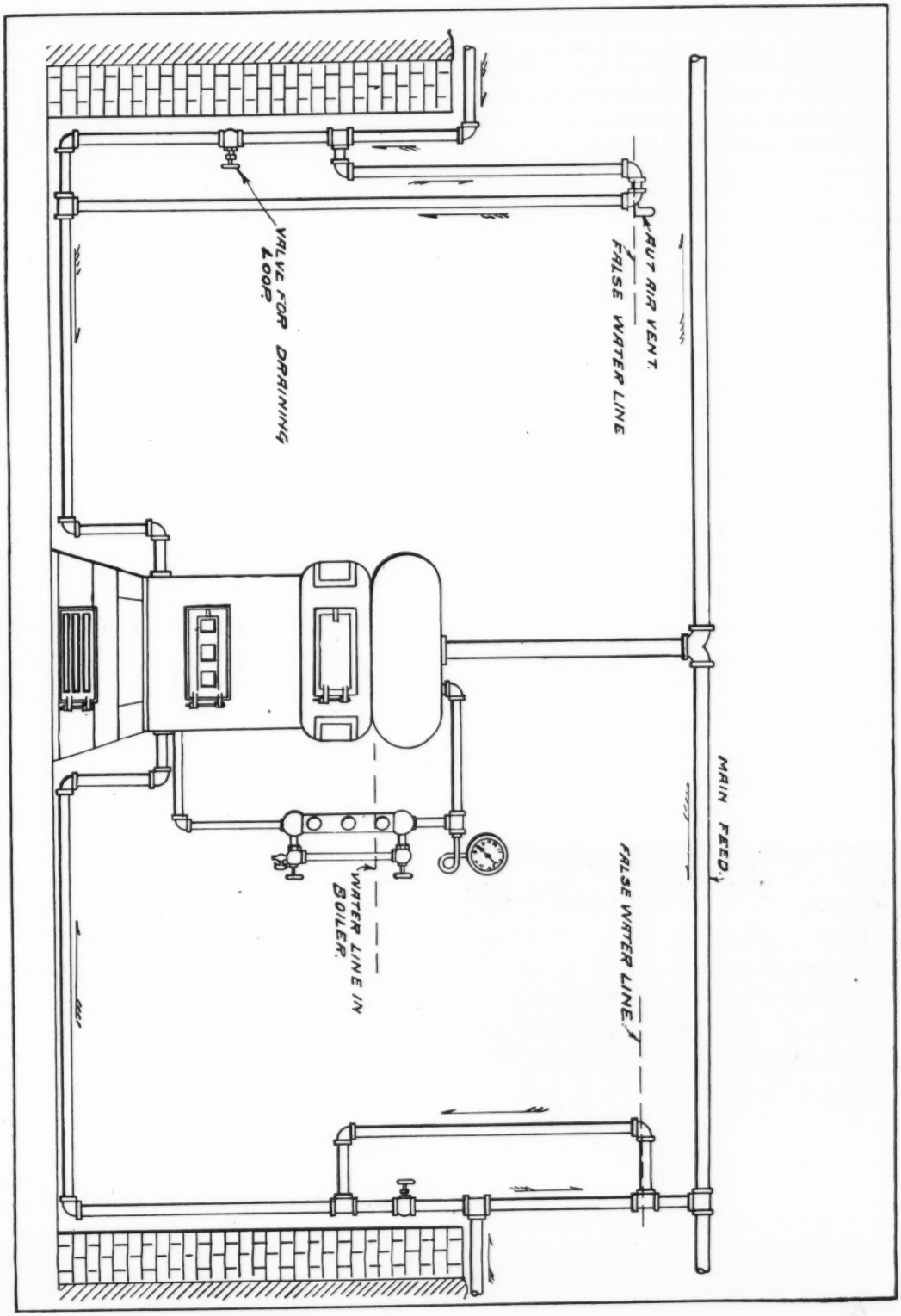

Plate IX. Two Methods of Creating False Water Line.

lower branch, thus making a loop, similar to the one shown on the right-hand side, around the valve indicated. The principal difference lies in the substitution of the automatic air vent for the balance pipe mentioned above, and this difference is an important one, for it affects most distinctly the action of the device as a whole.

As the system is first fired and pressure gradually raised, water will rise toward the air valve in both sides of the loop, the air vent allowing the air to escape. This will continue until all the air is out, and the valve is closed by the hot water coming into contact with the expansion stem of the air vent. The loop being then completely filled, the syphon is formed and the return will be entirely emptied of all condensation. It is evident that this arrangement would not be as reliable as the one on the right. The permanence of the false water line produced in this manner is questionable, and while it may not be safe to state that it will not work, it is certain that this arrangement will command less confidence in its reliability than will the arrangement shown on the right. The device with the automatic air vent would be admirably suited to conditions requiring the regular draining of the returns, but since it is difficult to imagine where such a peculiar requisite would be essential in a steam heating plant, it may be said, in general, that the construction on the right is the best to use.

The valves, which, in both constructions, are bypassed by the loops, may be used to drain the loops and returns when necessary. In fact, the water level may be depressed from the false water line to the normal water line of the boiler, at will, by simply opening these valves.

A very common application of the false water line apparatus is to old dry-return systems which are to be corrected for cracking and water hammer. It is evident that a comparatively simple addition to the piping near the boiler will change the system to one with wet returns. It may be noted that where the arrangement is to be applied to old systems it may not be convenient or desirable to cut the steam main for the connection of the "balance pipe" as shown. In that case, this pipe may run vertically about a foot and then horizontally to the nearest drop of the system, or, in fact, to any pipe of the system containing steam.

"Boosters of Mirth." Delegates from the Empire state were prominent in deed, but these members from Albany and Schenectady were especially noticeable. The photograph was taken by our Mr. Winslow at the last annual convention of the National Association of Master Plumbers, held in Boston, Mass., on July 14-17.

Hot Water for Domestic Use—X*

EDITED BY JNO. K. ALLEN

Mem. Am. Soc. Inspectors of Plumbing and Sanitary Engineers; Mem. Royal Sanitary Institute of Great Britain; Assoc. Mem. Am. Soc. Heating and Ventilating Engineers; Hon. Mem. Chicago Architectural Club.

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DEPOSITS OF MUD IN WATERBACKS AND BOILERS.

In many localities, particularly on the banks of turbid streams, or rivers, from which the municipality receives its supply of water, so much mud and sediment is carried in suspension that the water presents a very muddy appearance. When kept constantly stirred up by the agitation incident to flowing through pipes, the mud remains suspended in the water, but if allowed to remain quiescent for a few hours, as for instance, in hot water boilers, and closet tanks over night, a large percentage of the mud will settle to the bottom, where if not again stirred up, it will remain until removed by some means. By using a properly constructed mud collector or draw-off in connection with a boiler, the sediment can be separated from the water and drawn off at intervals without stirring up the mud, consequently, the hot water supply, when such provision is made, will be clearer than it otherwise would, and the waterback will be protected from a deposit of mud, which, when baked on becomes so hard that it is difficult to remove. Mud, it might be stated, cannot be treated like hardness of water,

* Previous installments in this series of articles were published March 7 and 21, April 4 and 18, May 2 and 16, July 11 and August 15 and 29. These back numbers can be obtained for 10 cents a copy.

to prevent incrustation, but the only way is to remove as much as possible of the mud content of the water. A simple means of accomplishing this is to use a device similar to that shown in Fig. 12. To use this device, the bottom connection to the boiler must be larger than the standard size. Into this enlarged opening the mud connection is screwed. The connection consists of an enlarged pocket or fitting, with the return pipe connection to the waterback passing up through the center of it to a distance of several inches above the level of the bottom of the boiler. Around this stand pipe is an annular space through which mud, following the natural slope of the bottom of the boiler can settle down into the mud pocket. It will be noticed that when such a fitting is used, there is little or no danger of the mud becoming stirred up by the circulation of water between the waterback and boiler, unless through carelessness in not drawing off the mud occasionally through the blow-off connection, it is allowed to accumulate until it reaches a point above the top of the return pipe to the waterback.

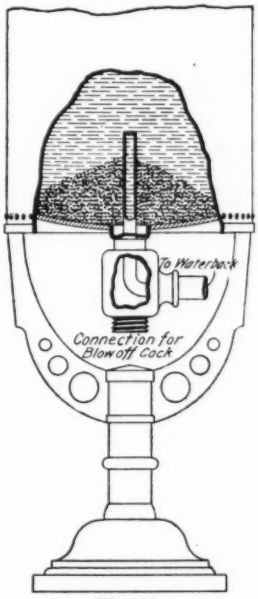

Fig. 12.

Pipe Coils for Heating Water.

Some cooking stoves and ranges are not provided with waterbacks for heating water, and sometimes it is desirable to heat water in an ordinary heating stove, furnace, or other type of heater. Under such conditions heating coils, made of pipe, are used to supply the deficiency of waterback or water jacket. Usually pipe coils are made of plain, wrought-iron, or steel pipe, put together with ordinary steam fittings generally of the return bend pattern. In other cases the coil is made of copper or brass tubing, bent to fit its final resting place in the firebox. Whatever the material used, the ends are threaded and made long enough to project through the side of the cooking range or heaters so that they can be connected to the flow and return outlets of the boiler. Pipe coils are usually made and installed by the plumber or steam fitter, and great care must be exercised in doing this work, if satisfactory results are to be obtained. The first precautions must be observed in locating and drilling the holes through the side of the firebox, to get them in their right places, and not to break the thin casting, which is easily cracked. Good judgment and extreme care must also be exercised in placing a coil within a firebox, to see that it does not in any way interfere with or derange the other functions of the range or heater. There is less danger of this in a heater than there is in a cooking stove or range. The principle objection to placing a heating coil in a range is the fact that its effect on the draft of the stove or heating capacity of the oven can never be foretold. As a consequence, ovens are often spoiled for baking and roasting by placing a waterheating coil in the range, if not designed to accommodate one, or by improperly installing a coil in a range, that if properly installed would work satisfactorily.

Special Water Heaters.

Where large quantities of water must be heated, such as in apartment houses, clubs, hotels, hospitals, bathing establishments, swimming pools, baptistries and for other purposes which might arise in practice, special heaters are required, unless the water is heated by steam. For this purpose, what might be called a water-jacketed stove is used. One type of such water heater is shown in Fig. 13. It consists of a firebox encased with a double casing between the walls of which water can circulate and absorb heat from the hot coals, and gases against the inner casing. Water enters this water jacket as the space formed by the two walls is called, through an opening near the bottom, and after becoming heated, passes out through the hot water opening near the top of the casing. The water heating part of the apparatus is mounted on an ash pit and over a coal grate, so that fuel can readily be burned within.

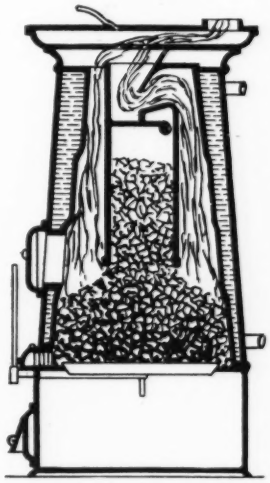
Fig. 13.

(To be continued. All rights of republication reserved.)

Garbage Collection and Disposal at Cleveland

By W. J. Springborn, of Cleveland, Ohio

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Prior to 1905 the garbage of Cleveland was collected and disposed of under private contract, the city paying $69,400 per year for this service. On January 1st, 1905, the city purchased from the contractor the reduction works and collection equipment, paying therefor $87,500. Since then new equipment has been added, new buildings erected

W. J. SPRINGBORN,
Superintendent of Cleveland (O.) Board of Public Service.

and general improvements made until the real estate, plant and equipment is valued at $216,726.92, according to the auditor's report dated Dec. 31, 1907.

To begin with collection, the city is divided into 67 routes, using in all about 80 wagons and 110 horses. The wagons used are of special design (Fig. 2). The box is made of steel, and will hold about 3,500 pounds of garbage. It is hinged to the bolster over the rear axle, so that it can be dumped. It is, however, not self-dumping, the purpose being to keep as much of the load as possible to the front of the wagon. In order to dump it, chains are attached to the front of the box, and by means of a triplex block the front end of the box is raised sufficiently to permit the garbage

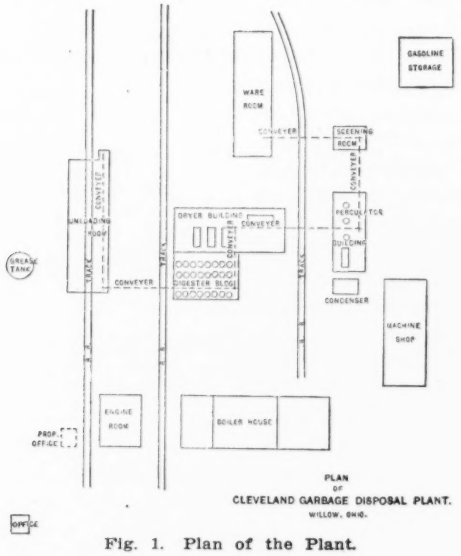


Fig. 1. Plan of the Plant.

to fall out at the rear (Fig. 3). The wagons are equipped with canvas covers, to hide the material

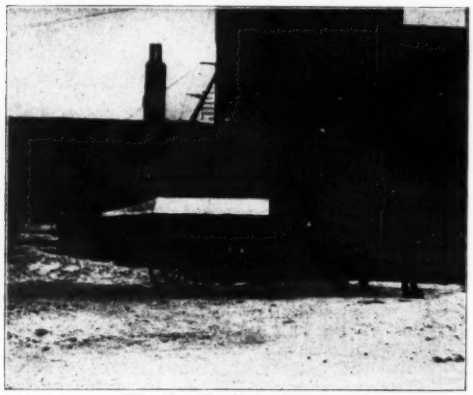


Fig. 2. Garbage Wagon.

and to prevent the noise usually made by wagons with iron covers.

The loading station and the stable are located on Canal road, adjacent to Central Viaduct, which is about three-fourths of a mile from the center of the city. Here the garbage is delivered in wagons

and loaded on cars ready for shipment to the plant, which is located at Willow, Ohio, a distance of about nine miles from the loading station.

We also use a special design of railroad car (Fig. 4), of which we have ten. They are constructed of steel throughout. The truck is of standard gauge with 33-inch wheels. The body of the car is a tank 30 feet long and semi-circular in shape. It is supported by trunnions at each end, and also by rollers at three different points underneath. In order to unload the car, cables are passed through underneath the body and fastened at a point about half way from the top, and by means of two 5-ton triplex blocks the body is tipped so that the garbage falls out upon the floor of the receiving building at the works. Their capacity is 40 tons each, and but two men are required to tip them.

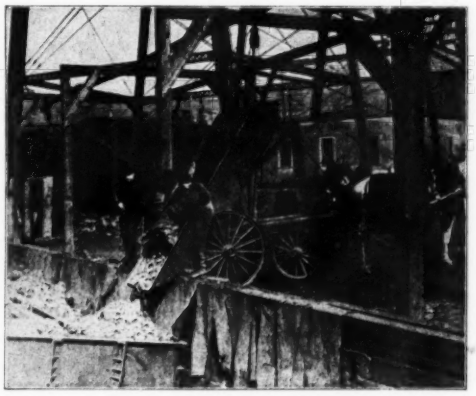


Fig. 3. Dumping a Wagon.

From the loading station these cars are hauled to the plant (Fig. 5). They run into the receiving building, the brick building at the top of the hill, and the garbage is dumped upon a concrete floor, from which it is shoveled into conveyors and conveyed up into the digester building. The tall steel building, the sides of which are covered with corrugated iron, is the new digester building. Fig. 6 shows a section of the conveyor in the upper floor of the digester building. This conveyor delivers the material to this floor, in a horizontal position, and it is then dropped through spouts directly into the digesters, the upper part of which is shown in Fig. 7. We have 24 of these digesters, each with a capacity of 10 tons per day, making a total daily capacity of the plant 240 tons. The digesters are 14 feet high and 54 inches in diameter. When the digesters are filled, steam is turned into the material at a point near the bottom of the tank and the garbage allowed to cook from six to seven hours, 70 pounds steam pressure being used. When the cooking process is completed, the steam is shut off at the bottom of the tank and turned in at the top, the pressure thus produced

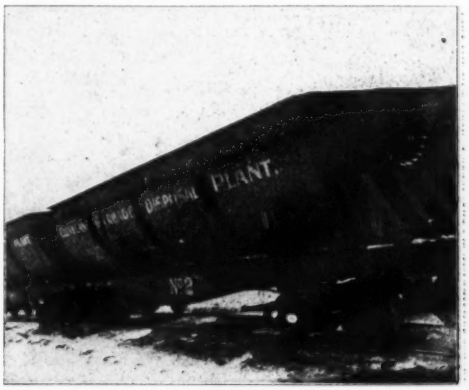


Fig. 4. The Special Car Used.

driving off the free water and some of the grease through a draw-off pipe at the bottom. In order to prevent the material from passing out with the water, a strainer and strainer-plate are used. The mixture of water and grease is pumped into settling vats and allowed to cool, after which the grease is skimmed off the top. The solids remaining in the digester are removed through an opening in the side of the tank about 12 inches from

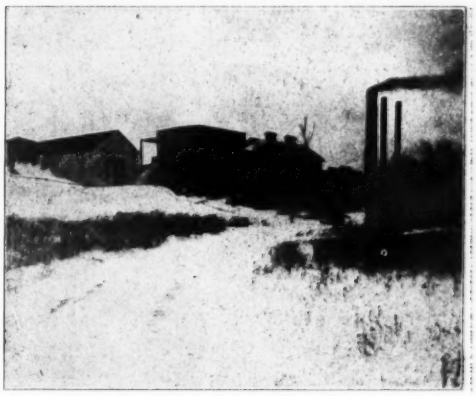


Fig. 5. Cleveland Garbage Plant.

the bottom and deposited in a small car, which is equipped with a worm conveyor, automatically unloading it into a drag conveyor which takes the material to the dryers.

Next comes the process of drying the garbage before the grease is extracted therefrom. It is first put into a steam jacketed dryer 14 feet long

and 5 feet in diameter. This dryer has a shaft through its center with paddles attached. As the shaft rotates the paddles lift the material, breaking it up and at the same time evaporating some

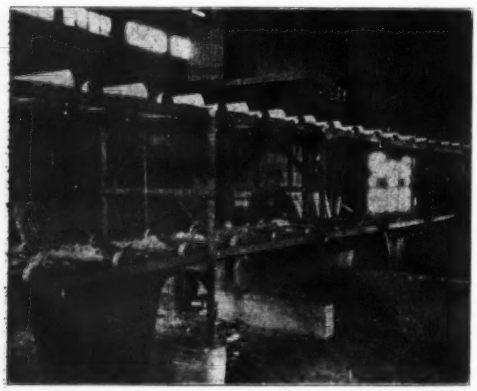


Fig. 6. The Conveyor.

of the moisture. This type of dryer is equipped with two manholes underneath it, through which the material is dropped into still another conveyor and conveyed to a combination steam and hot air rotary dryer (Fig. 8). This dryer was designed by E. S. Peck, superintendent of the plant. The cylinder of this dryer is 30 feet long, 57 inches in diameter, with a 2-inch space between the inner and

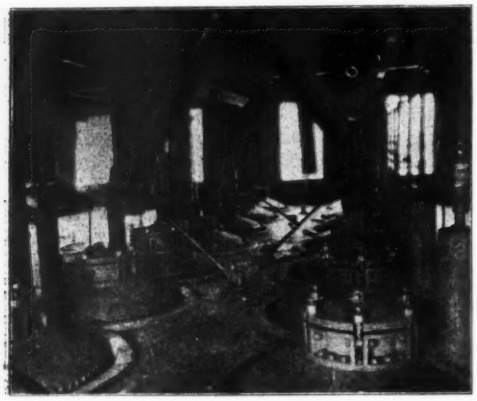


Fig. 7. Upper Part of Digesters.

outer shell for the admission of steam. There is also a 14-inch steam pipe running through its center. To the sides of the inner shell are attached flights 4 inches in width. These lift the material as the dryer rotates.

The dryer is set on a grade of a ¼-inch per foot, and the tankage (as the material is called) is fed in at the upper end and discharged at the lower, the process being a continuous one. At the lower end of the dryer is a series of steam coils with a blower attached, which forces the air around these coils, heating it to about 230 degrees Fah. This dry air then passes through the dryer, absorbing the moisture from the tankage as it falls from the flights above referred to.

About 50 feet from the dryer building is located the percolator building, to which the material is next conveyed, and where the grease is extracted by the use of naphtha. In the upper part of this building there are three bins for the storage of tankage. Under each of these bins are the percolators. We have recently installed a new type of percolator, invented by Mr. Peck, and it is working very satisfactorily, doing all that we expected

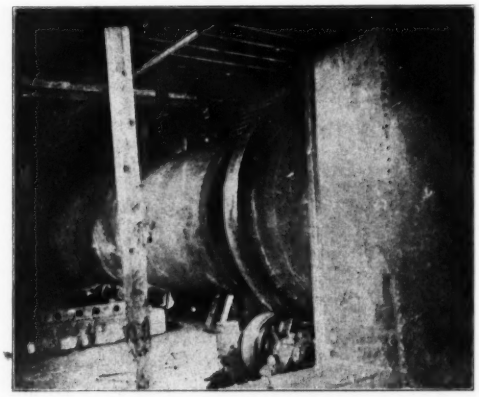


Fig. 8. Rotary Dryer.

of it. I have no photograph of this percolator showing it in position at our plant, but Fig. 9 shows it loaded upon a car. It is similar in design to the Peck dryer, except that it is but 14 feet in length and 8 feet in diameter. It is placed in a horizontal position, has a steam jacket, and is constructed to rotate in the same manner as the dryer. The material is put into this percolator through two manholes in its upper side. The pipes for the admission of gasoline are also connected through the covers in these manholes. The grease and naphtha escape through three openings in the lower part of the tank, and in order to hasten the process of percolation the pipes can readily be disconnected and the percolator rotated so as to mix thoroughly the entire mass of material with the naphtha or solvent used. It holds nine tons of material to a charge, and can be operated three times in twenty-four hours, giving a daily capacity of at least twenty-seven tons. (Fig. 10 shows the

old percolators, by means of which the grease was extracted before the new type was installed.)

In order to recover the naphtha after the grease has been extracted, steam is turned into the drum and jacket and the percolator made to revolve, thus while turning the material, also moving the same sufficiently to release quickly all of the solvent contained in the tankage. By this method no moisture is added to the material nor steam mixed with the vapors, which go to the condenser and thence to the storage tank. By the use of this type of percolator I think that the loss of naphtha will not exceed one gallon per ton of material.

Next to the receiving building (see Fig. 5) is a large tank used for the storage of grease. This tank has coils of pipe in it, through which steam is forced, for the purpose of heating the grease,

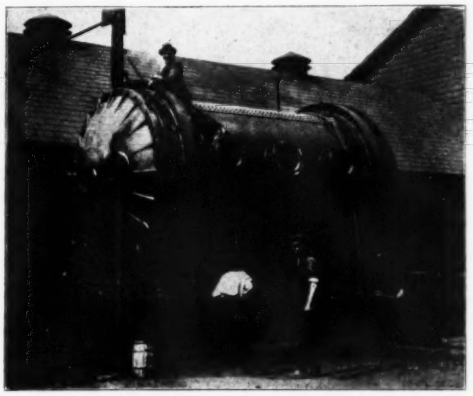


Fig. 9. New Percolator.

thinning it sufficiently to run through pipes to a car placed on the track below.

Our naphtha storage building is constructed of concrete, the tanks being placed below the ground level, only the roof of the building projecting above the surface. The boiler plant consists of five 80 h. p. and two 150 h. p. return tubular boilers. A 250 h. p. Monarch Corliss engine, direct connected to a Triumph generator, furnishes the power to operate the works, and separate motors are attached to each apparatus requiring power, thus avoiding the use of main line shafts and belts. The ground plan of the buildings, railroad tracks, etc., is shown in the accompanying drawing, designated as Fig. 1.

In the old process formerly used, the grease was extracted by means of hydraulic presses (see Fig. 11), the tankage being placed between burlap on racks in layers about 3 inches thick and 5 feet square. The cylinder of the presses was 14 inches in diameter, and subjected to a pressure of 3,500 pounds to the square inch. By this means the liquids were squeezed out of the material, carrying the grease with same to a vat, where, after cooling and settling, the grease was skimmed off. The tankage produced by this method is not as desirable to the trade as that which we are now making from our new process. There was about 12% of grease left in the pressed tankage, whereas now there is only about 2%. The grease being the most valuable part of the product, makes it desirable to recover as large a percentage as possible.

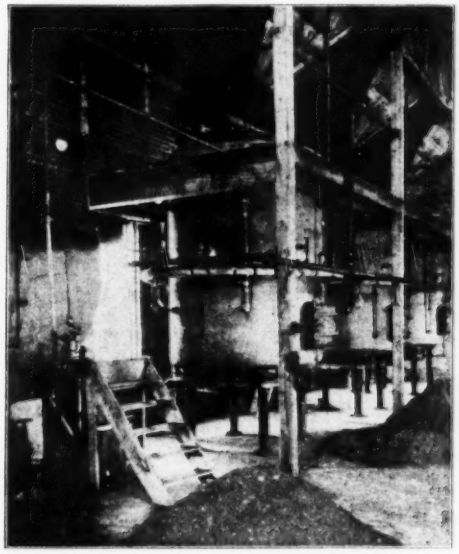


Fig. 10. Old Style Percolators.

Fig. 11. Old Hydraulic Press.

During the year 1907 we collected and reduced 37,606 tons of garbage. The cost of doing the

work was $193,365.76. The gross income for sale of product, including inventory of material on hand and miscellaneous revenues, amounted to $136,985.60, leaving, therefore, the sum of $56,-380.16 to be charged to taxes.

Following is a summary of product, sales and inventory for 1907:

January 1, 1907, to July 1, 1907.

Quantity.	Article.		Average Price.	Amount.
1,225,290	lbs. grease	@	$4.25 cwt.	$52,068.44
2,756,281	lbs. dry tankage	@	7.85 ton	10,816.14
2,439,010	lbs. pressed tankage	@	2.47 ton	3,011.61
181	lbs. hair	@	.20 lb.	36.20
115	tails	@	.30 each	34.50
220	hides	@	4.65 each	1,021.47
	Total first six months, 1907			$66,988.36

July 1, 1907, to January 1, 1908.

Quantity.	Article.		Average Price.	Amount.
1,140,980	lbs. grease	@	$4.298 cwt.	$49,042.40
836,406	lbs. dry tankage	@	6.888 ton	2,880.81
6,353,518	lbs. pressed tankage	@	2.50 ton	7,943.25
342	lbs. hair	@	.1442 lb.	49.30
307	hides	@	4.496 each	1,380.41
62	tails	@	.30 each	18.60
	Total last six months, 1907			$61,314.77

Every effort is being made to recover a larger percentage of the valuables contained in the garbage so as to secure a greater return from the sale of the by-products, and I believe that the time will come soon when the municipal garbage plant of Cleveland will cost the taxpayers but little, as the rapidly increasing profit will nearly put it on a self-paying basis.

What Troubled Pat.

An old Irish laborer walked into the luxurious studio of a New York artist and asked for money to obtain a meal, as he was too weak to work.

The artist gave him a quarter and then, seeing possibilities for a sketch in the queer old fellow, said: "I'll give you a dollar if you'll let me paint you."

"'Sure," said the man, "it's an easy way to make a dollar, but, but—I'm wonderin' how I'd get it off."—Ladies' Home Journal.

Some Wisdom from Boston.

A customer neglected is a customer lost. When you see a man with his hands in his pockets, leaning on something, recommend him to your competitor. He moves not forward but backward. If a pup is no good you can drown it, but it's different with people. Don't wait for your ship to come in, but row out and meet it. Laugh and the world laughs with you; snore and you sleep alone. The elevator to success is generally stuck; try the stairs. If drink interferes with your business, quit your business. To wiggle your gray matter and think thoughts is one thing; to wiggle physically and execute them is quite another thing.—The Digit.

Portable Heat

By Guido D. Janes

Written expressly for "Domestic Engineering." All rights reserved.

When Gus DeGrott was a plumbing engineer in Ducktown he secured a contract from a close-fisted individual to install a hot-water heating plant in his eight-room residence.

Drawing up the plans on paper and placing the cost of same, etc., on other paper, he strolled down to the close-fisted individual's place of business. His name was Lem.

"Here are the facts and figures," said Gus upon entering the office where Lem was carrying on his

Gus and Mrs. Lem talking about the plant.

vocation. "With a radiator in each room, and a nice boiler in the cellar, you will have a great modern improvement. And it will only cost $150.10."

"Are you endeavoring to get rich quick?" asked Lem.

"No, I am endeavoring to become wealthy leisurely. I want to put in a plant that will rank along with the Indian mounds in durability."

"You will have to cut the price before I allow you to place in the said improvement. I have a scheme. Instead of having four radiators upstairs,

have one. Have this one connected with the feed pipe by a length or two of garden hose. Then we can tote it around with us when my wife and I wish to migrate from one upstairs vicinity to the other. For instance, when my wife wishes to do some sewing in the sewing room, she can take the radiator with her. Then if she wishes to adjourn to the bath room she can pick up her heat and do said adjourning without delay."

"Well," remarked Gus, after hearing Lem's suggestion, "that might be done. It would then cost $132.40."

"All right. Get busy on the job. Hurry up about it, for the goose flesh on my person is holding an indignation meeting for more warmth."

So Gus went ahead and placed the hot-water heating plant in the house. All the downstairs rooms had radiators, while the upstairs had but one. Then he sent in the bill.

From the very first the heat generated by the improvement worked admirably. Mrs. Lem had no trouble in transporting her second-story heat from one place to the other. In fact, every time she moved the radiator from one place to the other it put her in mind of economy. But one day, twenty-four hours after getting a new servant, Lem's better or worse half was working a needle on some wearing apparel in the sewing room. While in there the said servant came up to the place to see what was wanted for supper.

But before she reached the room, or apartment, she saw the rubber hose that stretched itself from the radiator to the feed pipe. In the uncertain light of the hall she mistook the hose for a snake. Not wanting the reptile to linger around the family abode for fear it would wear out the carpet crawling over it, she sauntered downstairs. There procuring an ax, she returned and began to attack the supposed snake severely.

The result was that instead of blood strolling out upon the floor, a volume of something else did. Yes, it strolled out rapidly, and ran down a floor sleeve and thence upon some wall paper below. Mrs. Lem, upon hearing the slaughter, rushed out. But when she discovered what had taken place, she said scathing things to the servant and ended same with grief.

"I'll 'phone the plumber," quickly said the servant, sheepishly. "He can perhaps save the wall paper from very great damage."

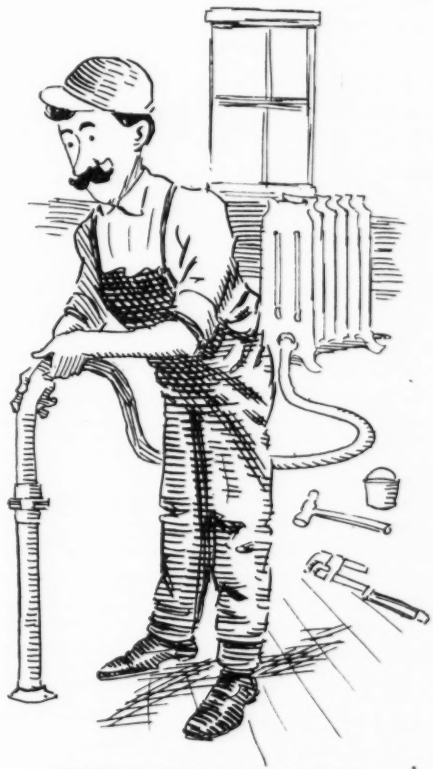
"All right then."

So she went to the 'phone and told her troubles to the receiver. The result was that in ten minutes one of Gus DeGrott's plumbers came up by return mail and shut off the feed pipe at the boiler. This put an end to the flood upstairs.

When the excitement died down Mrs. Lem made the remark to the plumber that it was false economy to save an eighteen-dollar plumbing bill and have to pay a paperhanger thirty.

"I don't care how much it costs," said she; "we must have a radiator in each room, and no rubber pipes. No telling but what future servants will be displaying their ignorance as this one has done."

"Very well, I will go and tell my boss," remarked the plumber.



Putting in the up-stairs radiator.

And after he left, she told her husband over the wire what she had done. After which she and the servant mopped up the mistake and went about their duties as usual.

Explained.

Mistress: "You seemed to be enjoying yourself last evening, Bridget. I heard loud laughter in the kitchen."

Bridget: "Yes, mum. Me policeman cousin was after droppin' in to tell me of me uncle's death."—Harper's Bazar.

Trapping and Venting Bar and Soda Sink Fixtures

There seems to be no required practice in relation to trapping and venting fixtures which have indirect connections, such as bar and soda sink fixtures. We have, therefore, addressed the following questions to a number of persons, requesting their opinions as to the best practice:

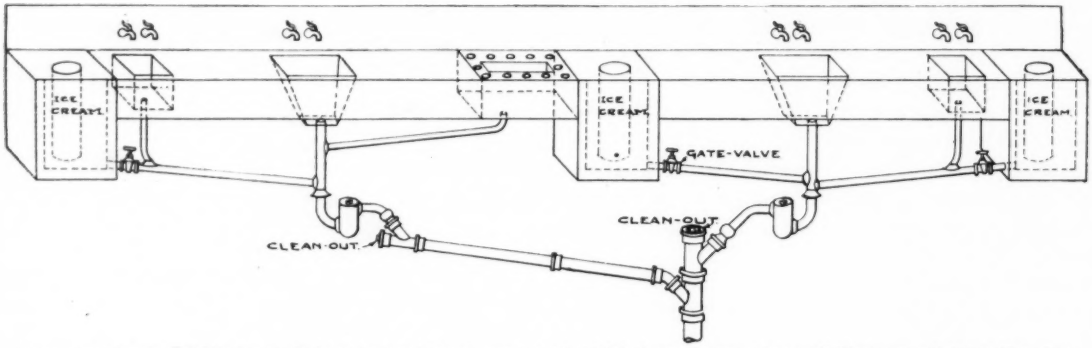
1. Should indirect connection with the drain be approved for bar and soda glass sinks?

2. Must a trap be required near the fixture?

3. Shall such trap, if required, be vented?

4. Does it make any difference whether the waste be long or short as to venting the trap?

5. What materials should be required for this indirect waste connection?



Soda water counter as connected up several years ago, and which has proven very satisfactory. Gate valves are placed on waste pipes to prevent waste of ice water.

6. Should all or any of it be arranged to be easily taken down for cleaning?

7. What arrangement is necessary at the point where this waste discharges into the drain?

We have published replies in ten previous issues. The accompanying sketch illustrates an installation which was made several years ago and which has proved satisfactory in every respect.

Questions and Answers

HEATING A LUMBER DRY KILN WITH STEAM COILS.

Auburn, N. Y.—To the Editor of "Domestic Engineering." The writer has today had put up to him a proposition on heating with which I am not familiar, and if it is not encroaching too much on your time and good nature, would ask your advice and assistance. The work in prospect is a lumber dry kiln, two rooms, 13'x20'x14' and 20'x20'x14' to be heated with steam coils and low pressure cast iron boiler, to a temperature of 170°. Building to be built of brick and each room to be made as near air tight as possible to build.

Questions.—How many square feet of coil radiation, 1¼" pipe, should be used for each room?

What capacity cast iron boiler should be used? The boiler room is near the radiation and there are no long mains.

How should coils be arranged, at bottom or top of room?

Will party get good circulation in air-tight room?

In giving answers to the above, give detailed information as much as possible, as I am up against other parties who have advanced some peculiar reasons, to my way of thinking.

Are there any rules or publications issued on this particular branch of heating that I could procure?

C. W. B.

Answer.

To heat the dry houses of sizes mentioned will require 1¼" pipe to be distributed over the entire floor of the houses, spaced, say, a distance of 2½" to 3" apart. A 4" extra heavy pipe should be run across the dry house underneath the joist, which latter in all cases are removable and tapped ¼" or 1" each 2½" to 3" apart on centers. The return headers should be likewise built. The 1" or 1¼" pipes should run immediately under the joists and drop into the return header by means of right and left ells, say a distance of at least 18", so as to allow for expansion. The steam feed can be run into a tee or elbow at the end of the 4" feed header and the return taken out likewise from the return header through a steam trap, which latter can be placed outside the building, if necessary. Instead of using one coil two coils can be used, or three, as desired, but the pipe should be just the same, that is practically to line the whole basement floor with pipe. This will give a temperature in a dry house with steam at 40 pounds pressure of about 140 degrees. I am satisfied that 170 degrees is entirely out of the question and entirely unnecessary. Dry houses rarely require over 110 to 120 degrees. There should be two vent openings built in the brick work, say in the middle of the side walls, opening into the rooms near the top, about 8"x16" in size, with the damper arrangement so that the vents can be shut off when necessary. Again underneath the coils in the front wall there should be an opening about 6" high, about four feet long, with a wood door on hinges, so that the same can be opened and the circulation allowed to go through the dry house. In the case of drying timber

it is usual to run two ½" spray pipes underneath the joist and about one-third the distance from either side wall. These spray pipes should have a valve at one end and a cap at the other and be tapped 1-16" on about 2" centers. At a certain point in the drying of timber it is usual to run in a spray of steam. All coils should be valved, both feed and return. I doubt very much whether you can get over a temperature of 110 degrees by using a cast iron boiler, on account of the limit of steam pressure. The size of the boiler, of course, could be determined after having figured out the coil surface and having added to this about 80% for surplus capacity.

VENTING DRUM TRAPS UNDER BATH TUBS.

Erie, Pa.—To the Editor of "Domestic Engineering." Sir—I was very much interested in the series of valuable comments from many correspondents, which were published in your journal some time

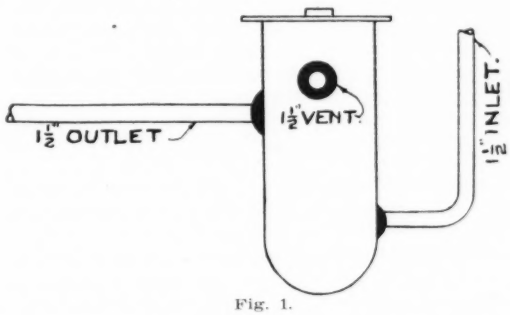


Fig. 1.

ago, regarding the use of sanitary "Y," and "Y" and ⅛ bend, and there is no question but that articles of this kind add much to the skill of the plumbers in general, if carefully studied.

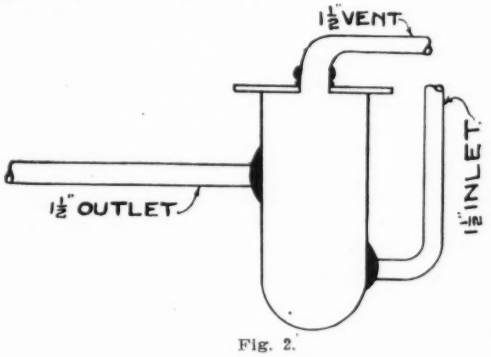


Fig. 2.

I now have a question I wish very much to submit to your readers; it is in regard to venting a 4x8 in. drum trap when used under a bath-tub.

I enclose drawings of same. The inspector here will not allow the trap to be vented as shown in Fig. 2, but insists that it be used as in Fig. 1.

The vent being taken from the side of trap under the floor and carried horizontally to the nearest partition to the vent pipe, a distance of from six to twenty inches. This, while making unnecessary work for the plumber, we believe to be poor practice, as we think this vent pipe will be filled up solid in a very short time.

It is to be understood that in Fig. 2 the nickel-plated pipe for vent is to be connected to vent pipe in partition by an air-tight joint and still be so made as to be easily disconnected, so trap may be cleaned.

C. E. W.

In Early Days—V

By Herbert S. Renton

"Their bones are dust,
Their good **pipes** rust;
Their souls are with
The Saints, I trust."

In the original of the lines quoted **swords** was the word which we have changed to **pipes.** Not the pipes of Peter Stuyvesant or that Peter Minuit who bought the whole of Manhattan Island for twenty-four dollars somewhere about 1628—but **iron soil pipe** and **fittings** made by Abendroth Bros. and J. L. Mott.

In a current advertisement of one of these old concerns I find the statement that they are eighty years old—and the inference is that the beautiful plumbing fixtures which they illustrate are the result of eighty years' experience in making plumbing goods. Now, it is safe to say that neither this firm, nor any other, made soil pipe and fittings, for instance, sixty years ago—and I think I would be safe in saying even fifty years back. The soil pipe used in Boston and New York after the introduction of the public water mains was made of heavy lead. Sheet lead, two pieces curved and soldered down each side, making a 4-inch lead tube. This was the early soil pipe.

Tatham & Brother of Philadelphia and New York were pioneers in the lead industry—then came the Colwell Lead Co., LeRoy Shot & Lead Co. and others. The lead sheets only were furnished by the lead concerns—the plumber having to beat up and solder his own pipe, and traps, too, for no Lowe cast traps or DuBois drawn traps were known in early days; the plumber had to make all traps and line all cisterns himself. A plumber was an artist in lead at that period.

While Mott and Abendroth were manufacturing stoves (Ben Franklin invented stoves, by the way)—before water was introduced—New York was famous for its clipper ships. The most celebrated were those of the **Black Ball** Line. As soon as one of the swift clipper sailing vessels came into port a small army of stevedores was put aboard and the cargo discharged in short order. Then it was a hustle to load again, and away to sea. The 'longshoremen were paid off in a saloon on South street and the original Jordan L. Mott, father of the late Jordan L. Mott, who was interested in these transatlantic flyers, was sometime paymaster. One day Mott had occasion to heat some tar in a hurry, and he tried to do it in the back yard of the saloon where the Black Ball stevedores were being paid.

A negro was employed to build a fire under a great iron pot and, as it was not getting hot fast enough,

he turned another iron pot over on top of it, bottom upward, and obtained a fierce heat at once. This ingenious turn was observed by Mott, who took the hint and evolved the **Globe** stove, that is today the most powerful heater known—as I have realized many a time when waiting for a train at midnight, at wayside railroad stations, when the very wood of the building seemed ready to dissolve and gave forth an odor that has often driven me out into a snowbank for relief in zero weather. In modern parlance, this negro handed Mott a **hot one.** The Globe stove made more money for Mott than anything he ever made and was the foundation of his large fortune.

I got this little bit of history from an eyewitness, J. H. Burr, Esq., formerly of the Burr & Houston Iron Co. of Brooklyn, N. Y. Mr. Burr was a man whose word was never questioned—a gentleman of the old school—long since gathered to his fathers. It was an education to hear him talk. His mind was stored with facts about the men and events of old New York, and this particular incident Mr. Burr vouched for exactly as I have given it here. Afterward—many years after the first Globe stove was made—Mott and Abendroth Bros. began to make iron soil pipe and fittings, which was not much in use until the late sixties and early seventies, and plumbers like Philbin & Quinn, James Henderson, David Montgomery and others made small fortunes pulling out the old lead waste pipes and substituting iron, their contracts saying nothing about the **lead**—which was worth three times its price today—and they got it for nothing! In modern parlance, this was a **lead pipe cinch!**

A GOOD EXCUSE.

MISTRESS. Biddy, what were you doing with your candle alight at 12 o'clock last night?

BIDDY. Shure, ma'am, I'd mislaid the matches, and had just lighted the candle to look for 'em.—Sloper's Half Holiday.

Wholesale Plumbing

The Standard Bronze & Brass Company has opened an office and foundry at 87 West Broad street, Columbus, Ohio.

The Automatic Measuring Faucet Company, of Seattle, Wash., has commenced the erection of a new factory building. The concern is capitalized at $50,000 and its president is A. C. Frohlich.

The new showrooms of the George H. Tay Company at Mission and New Montgomery streets, San Francisco, are now finished and the samples all in place. Everything is exhibited in the same position it is designed to occupy when in actual use, and in many cases the actual connections are in place. Several modern bathrooms are fitted up in the most approved fashion, and whenever anything new in this line is received it is placed in position in order that it may be shown to its best advantage to possible purchasers. The country business of this firm has improved wonderfully within the past month, and from present indications the winter season will prove to be practically normal. But little difficulty is now being experienced in making collections and conditions in general may be regarded as being very satisfactory.

Wholesale Heating

The Institution of Heating and Ventilating Engineers of Great Britain will hold its fall meeting on Tuesday, October 6, in the rooms of the Institution of Mechanical Engineers in London. Papers will be read by Prof. R. H. Smith on "Industrial Economy in Engineering and Its Application to the Heating Plant," and by John Watson on "An Ideal Apparatus for the Heating and Ventilation of Office Buildings."

The regular fall tournament of the Eastern Trade Golf Association will be held at the Garden City Golf Club course, Garden City, Long Island, on Thursday, October 8. The tournament will be a 36-hole medal play handicap. Other prize events will be arranged by the committee. The Garden City course was the scene of the recent national amateur championship competition and has been secured for the association through the courtesy of F. C. Jennings. Train for the golfers leaves East Thirty-fourth street Ferry, New York, via the Long Island Railroad at 8:50 a. m., for Mineola, where carriages will be in waiting. The only trains direct to Garden City in the morning leave New York at 7:50 and 9:20 o'clock.

The Board of Governors of the American Society of Heating and Ventilating Engineers held a meeting last week at the office of the secretary, W. M. Mackay, 113 Beekman street, New York City, for the purpose of making preparations for the next annual meeting, which is to be held in New York City on January 21, 22 and 23, 1909. President James Mackay announced the following as the Committee on Ventilating for New York State to work for the retention of the factory ventilation laws on the statute books: Chairman, William Kent; R. C. Carpenter, W. M. Mackay, W. C. Vrooman and E. P. Bates. The committee will co-operate with C. W. Olds, whose letter to the society —read at the meeting in Niagara Falls—resulted in

the appointment of this committee. President Mackay also announced the appointment of S. R. Lewis as chairman of the committee to collect data on air washers, and the addition of Theodore Weinshank to this committee.

Steam and Mill Supplies

The Wilbraham-Green Blower Company, of 2518 Frankford avenue, Philadelphia, is building a new plant at Pottstown, Pa., which will be occupied by its factory and general offices on or about November 1, 1908.

The Century Brass Company of Cattaraugas, N. Y., has started an addition to its plant, which will mean trebling the capacity. The improvements will include installation of new boilers, new engines and a complete line of the latest machinery. The present plant will be operated to its full capacity while the improvements are being made.

The LaMay Machine Works of 48 North Water street, Rochester, N. Y., has purchased a site of 15 acres, extending 2,000 feet on Emerson street and 325 feet on McNaughton street, on which will be erected an extensive plant for the manufacture of special machinery. The first group of buildings to be erected will consist of a main manufacturing building, one story, 180x200 feet; brass foundry, one story, 30x50 feet, and a power house, 40x60 feet. As soon as the buildings can be finished construction will be started on a malleable iron foundry building. The plant will be of the most modern equipment throughout and a steam electric generating plant will be installed.

Some give according to their means; some according to their meanness.—Lippincott's.

Metal Market

New York Metal Market, September 29.

Copper, Prime Lake	$13.50-13.62½
Copper, Lake, Arsenical brands	13.50-13.62½
Copper, Electrolytic	13.40-13.50
Antimony, Cookson's	8.12½
Lead	4.50
Spelter	4.75
Straits Tin	29.12½

Chicago Iron Market October 1.

Southern, No. 2 Foundry	$16.85-17.35
Lake Superior Charcoal	19.50-20.00
Lake Superior Coke Iron, No. 2 Foundry	16.50-17.00

October 1, 1908:

Foundry iron was the same price as week previous
$7 less per ton than the year previous
Copper was ⅛c less a lb. than the month previous
1⅝c less a lb. than the year previous

New York, N. Y.—There has been little doing in any of the markets, since both buyers and sellers of iron and steel in different forms are awaiting the outcome of the election, according to "The Iron Age." The most interesting transaction of the week is the sale of about 14,000 tons of cast-iron pipe for the Cienfuegos water works in Cuba. Apparently none of the requirements of the Transcontinental railway in Canada will be furnished by mills in this country. Throughout the entire central western markets pig iron is easy, with occasional reports of further concessions. Alabama makers are firm. New England is dull, but there have been a series of sales. All this business is either for prompt delivery or for shipment during the balance of the year. The volume of new business in the principal lines of finished iron and steel has been relatively light throughout. Copper is dull, and buyers and sellers are apart. Electrolytic may be bought at 13⅜c to 13½c, and there is no European demand. Lead is off to $4.47½ in New York. Spelter is slightly firmer at $4.60, New York. Production is curtailed.

From Chicago Heating and Plumbing Trades' Golf Tournament last week in Hinsdale, Ill. George E. Downe, A. A. Landon and W. C. Heath, who, with J. P. Dugger (unfortunately not shown entirely in the photograph) made up the fourth flight, which was won by Mr. Dugger. Photograph by Jno. K. Allen.

Obituary

George B. Little, vice-president and director of the Walworth Manufacturing Company, of Boston, Mass., passed on at his home in Cohasset, Mass., on Saturday, September 26. His many friends will be sorry to learn of his demise.

Eugene L. McGuire, a contracting plumber of Roseville, Newark, N. J., passed on at his home in that city on Friday, September 25, in his thirty-eighth year. Mr. McGuire was born in Newark and spent his entire life there. He succeeded his father in the plumbing business at his demise a few years ago. A wife, a son and two brothers survive him.

Personal

Henry Stein, of New York City, was this week in Chicago on his annual visit to the trade.

W. L. Rosenthal, of the Monarch Brass Company, of Cleveland, O., called on some of his many friends in the Chicago trade this week.

Jerome J. Wiot, who conducts a plumbing business at 2007 Madison road, Cincinnati, Ohio, was married Friday, September 25, to Miss Florence King, of Newport, Ky.

From Chicago Heating and Plumbing Trades' Golf Tournament at Hinsdale, Ill., on September 23. An exciting scene at the close of the day's sport. The caddies are fully as much interested in the winners of the various flights as are the gentlemen themselves. Photograph by David E. Kennedy.

Aug. Seelman, vice-president of the B. Hoffmann Manufacturing Company, of Milwaukee, Wis., has just returned from a most pleasant and enjoyable trip to Europe.

Frank Johnson, known throughout the trade in New York as the king of material men, has identified himself with George W. Heiland and will cover New York City in behalf of his business.

Milton L. Lissberger, vice-president of Marks Lissberger & Son, Inc., New York City, was in Chicago this week calling on some of his old friends, and incidentally making a few new ones.

Clifford Schlemmer, vice-president and general manager of the Oliver Schlemmer Company, of Cincinnati, Ohio, was nominated for the Legislature at the Republican convention on Friday, September 26th.

Joseph A. Weldon, president of the plumbing concern of Weldon & Kelly Company, Pittsburg, Pa., is remembering some of his out-of-town friends with copies of the "Official History of Pittsburg," published on the occasion of Pittsburg's sesqui-centennial celebration. The book is profusely illustrated and contains the interesting history of Pittsburg's development from a frontier camp to a mighty city. The editor of "Domestic Engineering" takes pleasure in acknowledging the receipt of a copy of this valuable book.

R. R. Sterling, of the Sterling & Skinner Manufacturing Company, of Detroit, Mich., is receiving congratulations from his friends on account of the fine showing he made last week at the Louisville Golf Club's three days' tournament at Louisville, Ky. Mr. Sterling finished at the top of his flight, winning the Shawnee cup after a hot match with one of the best golfers in the tournament.

P. D. Drummond, traveling representative of the Compound Injector and Specialty Company, Chicago, was held up and robbed of his watch, ring, fountain pen and money on Friday night, September 25, at Springfield, Ill., and painfully, though not seriously injured. Mr. Drummond had been attending a Masonic meeting with a friend, on the way from which they were attacked by three crooks, who relieved them of everything they had.

"Better late than never" was the view E. C. Wagner, Fred Groesch and L. Claussen, prominent members of the Chicago Northwest Side Master Plumbers' Pleasure Club, took of the matter when they attended Col. Fred J. Wagner's birthday party on Wednesday afternoon last week. This celebration should really have taken place in March, but owing to Col. Wagner's illness at that time, it was postponed until a more convenient season. The most notable features on the birthday program were a visit to the baseball game and two trips to the Bismarck Hotel. Those who attended declare "It's all right to celebrate one's March birthday in September."

Financial Trouble

Portsmouth, O.—Earl B. Lawson, who has conducted a plumbing contracting business here for some time past, has closed up the establishment and discontinued the business on account of financial difficulties.

Perth Amboy, N. J.—The plant of the Perth Amboy Ceramic Company, manufacturers of solid and special porcelain ware and porcelain acid tanks, is to be sold at auction by Charles K. Seaman, the receiver, in accordance with the orders of the court. There will be a small dividend for creditors.

New York, N. Y.—William H. Spelman, a master plumber of 111-113 East Twenty-fourth street, has filed a petition in bankruptcy with liabilities of $43,551, of which $27,293 are secured, and nominal assets of $24,800. Mr. Spelman has been in business in this city since 1893 and was previously in Denver, Colo. He did work in the St. Regis and Knickerbocker hotels, the City College and a number of public schools. He was formerly located at 130 West Twenty-eighth street. Judge Adams appointed William F. Upson receiver.

Good English.

A French lady living in America engaged a carpenter to do some work for her at a stipulated price. She was surprised later to find that he charged more than the price agreed upon. When she attempted to remonstrate with him, however, her English failed her, and she said: "You are dearer to me now than when we were first engaged."—Success.

The Great Northwest

Green Bay, Wis.—Martin & Wigman have secured the contract for the construction of a central station heating plant at Sturgeon Bay, Wis.

Beloit, Wis.—The Sanitary Plumbing Company has secured the contract for the installation of a vacuum heating plant in the Strong school building.

Superior, Wis.—The American Heating Company, of this city, has secured the contract for the installation of a heating plant in the Douglas county asylum. The consideration is $18,590.

Minneapolis, Minn.—H. Kelley & Company, of this city, have secured the contract for the plumbing in the new east wing of the capitol building at Madison, Wis. The consideration is $20,700.

Racine, Wis.—O. C. Davis has moved his plumbing establishment from its old location, 216 Sixth street, to the old Monarch building on the corner of Sixth and Villa streets, which has been entirely remodeled.

Green Bay, Wis.—Martin & Wigman will install the heating system in the Brown county courthouse for $6,880, and Geo. F. Reeke will do the plumbing for $4,766. The contracts were awarded on Monday, September 28.

Minneapolis, Minn.—The Campbell Heating Company, of this city, has been incorporated, with a capital of $25,000. The incorporators are: Horace D. Campbell, of Des Moines, Iowa; H. H. Van Bergen and Waldo Campbell, both of this city.

The Middle States

Galion, O.—H. C. Sponhauer has secured the contract for the installation of a heating plant in the new courthouse. The consideration is $842.

Dixon, Ill.—Ling Plumbing and Heating Company has secured the contract for the plumbing and heating in H. Squier's new residence. The consideration is $2,500.

Fairbury, Ill.—W. B. Shaw and Walter Swing have formed a partnership under the name of the Fairbury Heating and Plumbing Company and are now ready for business.

Canton, O.—The contract for the installation of the low pressure steam heating system in the postoffice building here has been awarded to Fife Bros. at their bid of $3,549.

Sebring, O.—The contract for the plumbing and steam heating systems for the new public school building that is being built here has been awarded to the Justus Plumbing Company, of Massilon, O. The contract amounts to about $3,200.

CLEVELAND MASTER PLUMBERS' ANNUAL CLAM BAKE.

Cleveland, O.—The Cleveland Master Plumbers' Association held its annual clam bake at Schneider's Gardens on Tuesday evening, September 22. There were about two hundred in attendance. The evening was fair and the ladies turned out in full force and with their handsome costumes, added to the handsomely decorated and brilliantly lighted tables, made an animated scene.

The bake was a complete success, as it always is when Demerest handles it. It could not have been timed better, as everything was cooked just right and not one had to wait a minute to get something to eat. There was enough of everything to go all the way around and then some left.

To satisfy all will make a success of any affair, and everyone seemed to be satisfied. The only complaint being made was inabality to eat and drink more. Everyone present declared they had one of the best times of their lives.

Frank Luther, of the Sanitary Company, was present and gave an interesting after-dinner talk on "Some Large Fish That I Almost Caught."

Irrepressible Otto Hahn, of the Louis Lipp Company, of Cincinnati, also added dignity to the occasion. He impersonated Oliver Twist, with variations. The principal variation was every few minutes requesting the dusky attendant to "take away the shells." The caterer finally appointed two waiters to attend him, one to bring on the clams, the other to take away the shells.

They say that laughter aids digestion; if so no one at the bake ought to have been troubled with indigestion, for everyone seemed to be laughing and having a good time. The members not present missed a jolly time. They missed getting better acquainted with their fellow business men. A close acquaintance with our fellow men enables us to see and appreciate the good things there are in them. It is only the man who is ignorant of the good intentions and warm feeling in others that is a "knocker." That is why those affairs make us have a higher regard for one another.

After the feast, dancing was indulged in until a late hour. The music was furnished by a first class orchestra and everyone felt the call to dance.

It developed that Eb. Ellen is a dance "fiend;" he says he could "just die waltzing."

The success of the evening's entertainment is due to the energy of the entertainment committee consisting of Messrs. Benhoff, Dunn and Kobs.

After all were tired out they went home to dream of clam bakes and "sich like."

"After"—the Cleveland Master Plumbers' Clambake.

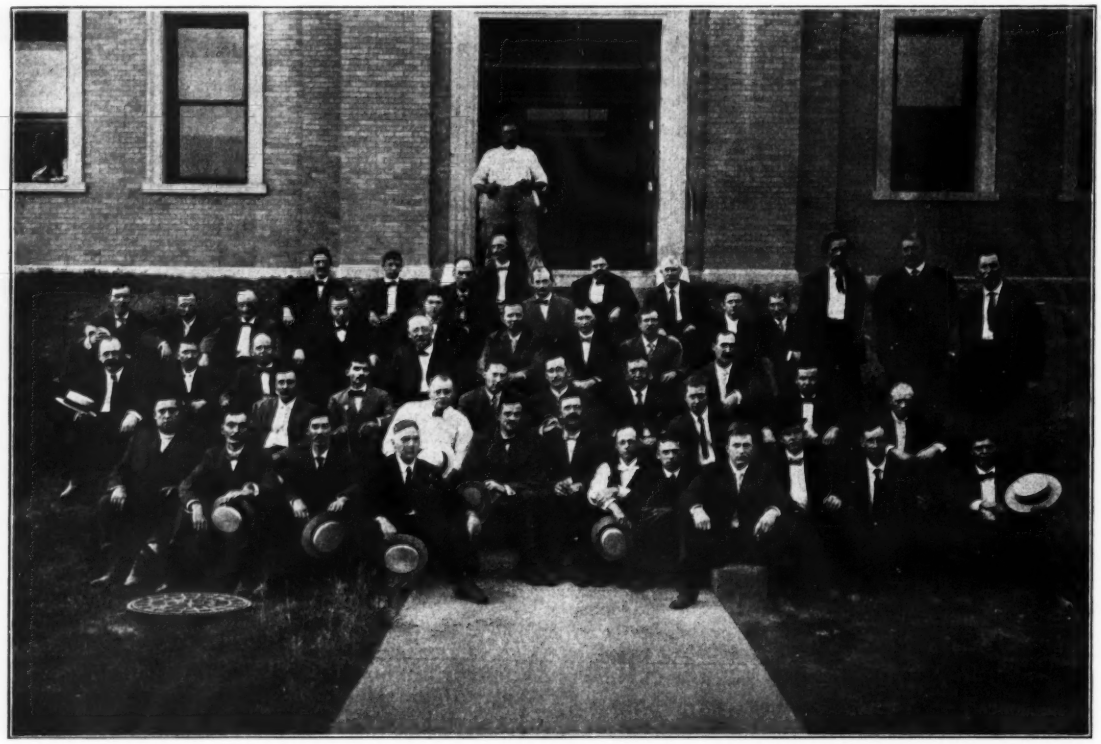
CINCINNATI MASTER PLUMBERS' INSPECTION OF THE NEW WATER WORKS.

Cincinnati, O.—If ever a jolly crowd started out for a jolly good time, it certainly was the crowd of master plumbers that went to inspect the new water works at California, Ohio, Saturday, September 26th. Promptly at 12:30 a special car on the Traction Line pulled out of the Sycamore street station, and in a few minutes President Frank called "all aboard" and they were off.

After about half an hour's ride, the car pulled up in front of the California Hotel, where light refreshments were served, and from there the boys, about eighty of them, proceeded to the new pumping station.

The trip was largely the result of the efforts of President Edward Frank, who said that he had felt, for quite a while, that the plumbers of Cincinnati should be familiar with this station, and should understand thoroughly the workings of it. He felt that if anybody should know the workings of the water works of a large city it ought to be the plumbers. He admitted that he had, on a great many occasions, been questioned regarding the new water works, but as the plumbers had never made an official inspection of the works, he was never in a position to talk intelligently on the subject.

William C. Jewett, resident engineer, received the crowd and personally conducted them through the entire plant, explaining every detail to them. First the in-take was visited, then the coal hoppers, the engine room, and the pumping station. The course of the water was explained thoroughly; how it was pumped into the reservoirs, and from there into the filtration plant. From the pumping station the crowd was conducted to the settling basins, which were explained very thoroughly. There are two of them in number. One of them is entirely finished. The other will soon be ready to turn on the water. One point that Mr. Jewett wished to impress upon the boys, was that in case of an accident to either of the basins, or in the event that it was found necessary to clean them out, there would be no delay, as one would be working while the other was out of commission.



A GROUP OF CINCINNATI MASTER PLUMBERS.
Photograph taken in front of the Filtration Plant at the Plumbers' Inspection of the Cincinnati Water Works, September 26, 1908.

Upon reaching the filtration plant, Mr. Jewett turned the crowd over to E. W. Ellms, chief chemist, who has charge of that department, and he explained the workings of his department in a very thorough manner. He told the plumbers that he wanted them to understand fully every detail, and if he was lacking in any particular, he wanted them to call his attention to it. So thorough, however, was his explanation, that it is

safe to say there was not one in the crowd who did not understand it thoroughly.

As there has been so much written about the new Cincinnati Water Works, we will not attempt, at this late date, to go into details.

When through the filtration plant, the boys assembled in front of the building, where a snap shot of the group was taken. From there they all proceeded back to the California Hotel, to take the car home. It was then that President Frank sprung the surprise of the evening upon them.

Crowding into the car, President Frank called to them, "Here, boys, we are not through yet," and invited them into the dining room of the hotel, where a sumptuous repast was awaiting them. This was a surprise, but it really should not have been to those knowing how President Frank usually conducts an affair of this kind.

After becoming seated, President Frank, who was in the best of humor, made one of his characteristic talks, and after telling the boys he thought much had been accomplished, the balance of the evening was given over to merriment. The songs of John Lamping, Ed Morgan and Julius Hengstenberger were very much enjoyed by all, so much so that they were called upon the second and third time. All through, some one called all aboard, and the car proceeded home, every one in good humor, and singing.

Although it was a special car and should have gone through, nevertheless, there were several stops made on the way.

Upon arriving in the city, Mr. J. H. Birch, Jr., manager of the Sportsman's Shot Works, and guests, invited the crowd into Foucar's, where a short time was spent in light refreshments, singing and jollying. Then the crowd dispersed, feeling that they had spent one of the most delightful evenings in the history of the association.

Much credit is due President Frank for the manner in which he conducted the occasion, and surely good results will follow.

Pick-Ups.

President Frank was in the best of humor—the perfect picture of health. He was out for a good time and saw that every one enjoyed himself. Ed is a prince and a splendid mixer.

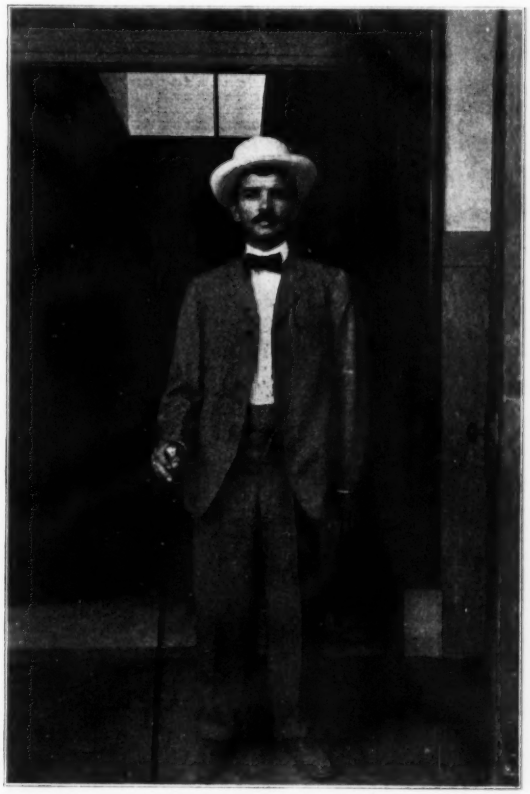
Every one enjoyed seeing William Donohue, and listening to his talk. Mr. Donohue is one of the oldest plumbers in Cincinnati, and cannot get around like some of the boys, but the boys all feel honored, however, when he attends, and always expect a talk from him.

John Lamping certainly did himself proud. No one knew John was such a speaker. He can travel in the same class as Bryan, and say—he can sing some, too. Wonder if John really thinks electricity will some day—he don't look it.

Ed Morgan, Ex-State Association President, gave one of his characteristic talks, which was listened to very attentively. Ed can sing some, too. He has you beat a little bit, Mr. Lamping.

It did every one good to see and hear Charlie Homan once again. Charlie has been an old war horse for a good many years and one of the most ardent association men in the country. He has been sick for eight months, and this occasion was the first time he has been out. We all hope, Charlie, you will soon be yourself again.

Obliging George Kiesewetter was there, and, as usual, looked after the comfort and pleasure of all. Everybody likes George.



CHARLES HOMAN, A RETIRED MASTER PLUMBER OF CINCINNATI, O.

Mr. Homan is probably one of the best known master plumbers in the United States. He is known from Maine to California, having attended every state and national convention for the last twenty years. He has been sick for the last eight months, and it was thought that he would not recover. This picture was taken at the Plumbers' Inspection of the Cincinnati Water Works, Saturday, September 26, 1908. He has all of this world's goods that he needs, and Charlie says that he purposes to take life easy from now on.

Every one enjoyed Jim Birch's tribute to President Frank. He spoke of having been identified with the plumbers for the past twenty-five years. Great goodness, Jim, how old are you, any way?

Frank Niesen slipped out before the banquet was over. Chairman Frank called for him, but he did not respond.

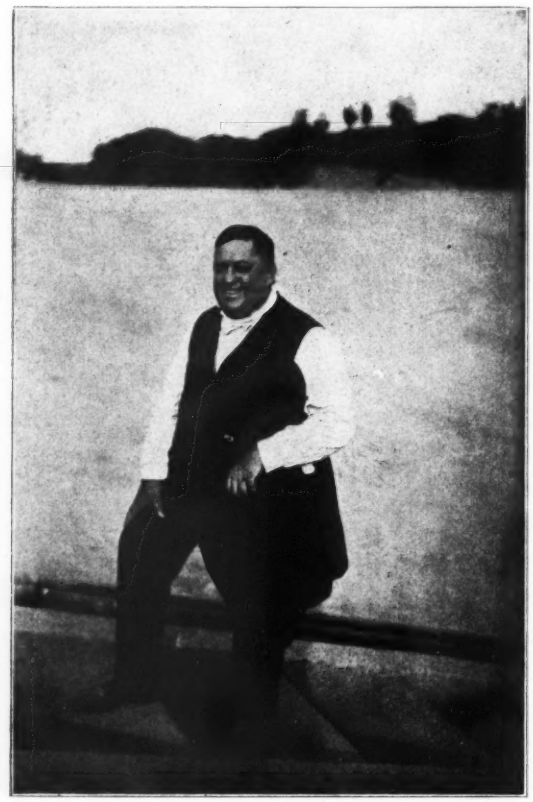
Ray Hillenbrandt's little talk was bright and very classy, and right to the point; but say, Ray, you ought

to quit reading the Post, at least until after the election.

Julius Hengstenberger's songs are always enjoyed. Julius knows he can sing **some,** and does not have to be coaxed.

Tom Lawson, the next time you will not be begged to sing.

Ben Lauman, the biggest plumber in the United States, got lost down in the engine room, and attempted to climb the narrow winding iron steps, and



J. B. LAUMAN, OF CINCINNATI, O.

who is no doubt the largest plumber in the United States. At the Plumbers' Inspection of the Cincinnati Water Works, at California, Ohio, last Saturday, a lot of the boys got to joshing Ben about not being able to climb the settling basin, which is not quite completed. The basin runs at an angle of about 45 degrees; so Ben fooled them. This picture shows him climbing the basin.

got stuck. George Kiesewetter had to go to his rescue.

A vote of thanks was extended to W. C. Jewett, resident engineer, and I. W. Ellms, chief chemist, and his assistant, F. Deerr, for courtesies extended. The boys certainly appreciated it.

Billy Botley (good looking) did not stay for the banquet. Wonder what took him back to town?

By the way, Charlie Weber, the next time you sing, please have the doors and windows closed.

Wonder what President Frank has in store next time? He has promised something better to drink than ————.

Russel Wherritt, the photographer, says he really likes the plumbers. If you go with us many more times, Russ, we will make a plumber out of you.

Handsome, jolly Ed Nolan was missed very much.

Wonder what caused Henry Brinck to limp so?

John C. Story is one of the oldest plumbers in Cincinnati. Consequently the boys enjoyed his little talk. Mr. Story says he is getting too old now for speech-making, and leaves that for the younger crowd.

Ben Lauman says that he doesn't wish Charlie Homan any more bad luck (as they are old pals), but he does hope that his recent spell of sickness will break him of dreaming aloud. Ben swears that at the last convention at Atlantic City Charlie dreamed so loud that he woke everybody in the house.

L. E. Scovill, Columbus, Kans., writes: "Domestic Engineering" has been worth one hundred dollars to me in the past year and only cost me one hundred cents. I have got information from it which I probably would have been a long time in learning from experience." Truly this is a good investment for Mr. Scovill. Would this be the same for you?

New York News

Schenectady, N. Y.—Leonard Harrison has engaged in the plumbing business at 1018 State street.

Johnstown, N. Y.—John C. Rice is engaged with the heating in three new residences in this town.

Sherbourne, N. Y.—Tobey & Smith are placing the plumbing in a new residence here for Warner Sandford.

Otego, N. Y.—C. E. Merrill has just completed the installation of a hot water heating system in a residence here.

Greene, N. Y.—L. J. Martin is busy with the installation of new plumbing in the Lion Iron Works building here.

Schenectady, N. Y.—Blair & Stievater are engaged with the installation of steam heating apparatus in four new residences in various sections of this city.

Norwich, N. Y.—Burchard Brothers have an elegant $15,000 contract under way in that of the plumbing in the new State Normal College at Albany, N. Y.

Gloversville, N. Y.—A. Treher, Jr., of Bleeker street, has a quantity of residence work on hand, in which plumbing and heating installations are being made.

Amsterdam, N. Y.—Paterson & Hayflinger have opened a neat show room at 42 Reid street, which will be well filled with modern plumbing and heating goods.

Norwich, N. Y.—Metzinger & Devine have lately finished the equipment of a modern heating plant in the Catholic church and rectory here. They also have contracts on hand for plumbing residences for Walter Foster, John Shea and Geo. Lawrence.

E. De Forest Winslow.

Boston and New England

Dover, Me.—B. A. Thomas has purchased the plumbing and crockery business of D. A. Herrick.

Whitefield, N. H.—The Stoughton Company is installing a new heating plant in the Allard block.

Lowell, Mass.—Carroll Brothers, of this city, have the contract for installing a new heating plant at the New England Sanitarium at Spot Pond, Melrose.

Dover, N. H.—John Baty has secured the contract for heating and plumbing two six-tenement blocks now being erected on Central avenue by Valentine Mathes.

Pawtucket, R. I.—St. George's Men's Parish Club has decided to install a system of heating in the club quarters, but the contract for the work has not yet been let.

Lowell, Mass.—Fred Samuels, of 56 Fifth avenue, is having a hot water heating plant installed in his residence and the work is being done by Hanchett & Company.

Boston, Mass.—The Massachusetts State Association of Master Plumbers will hold its fall meeting in Springfield, Mass., on Wednesday, October 21, according to call just issued by Secretary John P. Drury, of 99 Endicott street in this city.

From Chicago Heating and Plumbing Trades' Golf Tournament at Hinsdale, Ill., on September 23. Mr. Fishwick and Mr. Erskine discussing the results with two of their skeptical friends. Photograph by David E. Kennedy.

Somerville, Mass.—J. J. Fisher's plumbing establishment at 79 Broadway was damaged to the extent of $400 by a recent fire. The loss was fully covered by insurance.

Waterbury, Conn.—The contract for plumbing, roofing and metal work in connection with the building which is being erected on the corner of East Main and Silver streets has been awarded to W. H. Lowe. The block will be four stories high and contain one store and seven tenements.

A. H. French.

Pacific Coast

Los Angeles, Cal.—The Thomas Haverty Company, of this city, has secured the contract for the plumbing, gas fitting and drainage in the Timken block in San Diego. The consideration is $17,814.

San Francisco, Cal.—The William F. Wilson Company has just secured a contract from G. J. Fitzgibbons for the plumbing and gas fitting work in a six-story building on Sutter street, near Larkin.

From Chicago Heating and Plumbing Trades' Golf Tournament at Hinsdale, Ill., on September 23. A. K. Root, D. E. McCabe and A. H. Richardson, all in the third flight. Photograph by David E. Kennedy.

Santa Cruz, Cal.—The supervisors of Santa Cruz County are in the market for large quantities of water pipe of small sizes for use at various watering places they are establishing all through the mountains.

Redondo, Cal.—A big bath house with a good sized swimming pool will be erected here this winter, and Los Angeles contractors have been asked to submit bids. About $200,000 is to be expended in the project.

Los Angeles, Cal.—The Polytechnic High School in this city is to be equipped with a new heating and ventilating system and bids for the construction of this are invited by the Board of Education. The plumbing systems of a number of the schools have been found to be defective and they will all be remodeled. The Lincoln school will receive the first attention and about $1,600 will be expended there.

San Francisco, Cal.—Woodin & Little will soon leave their present quarters at 72 Fremont street, to take possession of their own building just across the street, which is rapidly nearing completion. The new structure is a large four-story affair and was built especially for the needs of this firm. There will be no rush about making the move, however, as the present home is a very comfortable one, and it may be a month yet before the offices in the new place are fully fitted up.

New Jersey

Jersey City, N. J.—Joseph A. Sprouls has moved his plumbing and gas fitting establishment from 339 Montgomery street to 301 Monmouth, where he has erected a new two-story brick building, the second floor of which will be used as a residence by Mr. Sprouls and his family, while the first floor is taken up by his plumbing business, a nicely arranged showroom and window display being arranged in the front, with the workshop in the rear. The building, which has a very attractive appearance, is heated with steam throughout. A nice driveway is constructed on the side of the building and a barn is built on the rear of the lot.

Southern Notes

Wilmington, Del.—The Joseph A. Vogel Company has been incorporated, with a capital of $25,000, to conduct a plumbing business.

Shelby, N. C.—The Acme Plumbing and Electric Company, of Charlotte, N. C., will open a branch of its business in this city in charge of Fred S. Davis.

Parkersburg, W. Va.—The J. Young Plumbing Company has purchased the plumbing establishment of Stalnaker Brothers & Company. The two establishments will be consolidated.

Birmingham, Ala.—The Independent Plumbing and Electric Company has been incorporated, with a capital of $2,500. The officers of the company are Herman J. Schnell, president; M. M. Barrett, treasurer; W. C. Slaughter, secretary.

Contemplated Work

Washington, D. C.—Sealed proposals will be received at the office of the Supervising Architect until 3 o'clock P. M., November 10, 1908, for the construction of the U. S. Postoffice at Toledo, Ohio, in accordance with the drawings and specification.

Washington, D. C.—Sealed proposals will be received at the office of the supervising architect until 3 o'clock p. m., October 8, 1908, for the construction complete of the United States postoffice at Hagerstown, Md., in accordance with the drawings and specifications.

Washington, D. C.—Sealed proposals will be received at the office of the Supervising Architect until 3 o'clock P. M., October 30, 1908, for the construction (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the U. S. postoffice at Carthage, Missouri, in accordance with drawings and specification.

Washington, D. C.—Sealed proposals will be received at the office of the supervising architect until 3 o'clock p. m., October 15, 1900, for the construction (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the United States postoffice at Marietta, Ohio, in accordance with the drawings and specification.

"Responsibilities gravitate to the man who can shoulder them." Are **you** ready to step up to a higher position?

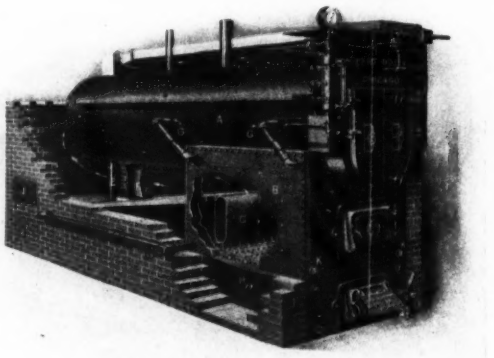
With the Makers

Will Make Lead Goods for Plumbers.

The Gardiner Metal Company has just started in business at 454-456 West Lake street, Chicago, manufacturing lead pipe, pig lead, sheet lead, lead traps, bar, wire and triangular solder. The proprietor of the company is James Gardiner, who has been connected with the lead business in Chicago for nearly forty years, twenty-nine of which were spent with the E. W. Blatchford & Company.

The Herbert Detachable Fire-Box Boiler.

The Herbert Boiler Company, Root and La Salle streets, Chicago, has just issued an interesting pamphlet under the title, "Heat Economy and Efficiency as Developed in the Herbert Patent Detachable Fire-Box Boiler." Some of the reasons why this boiler has met with a gratifying demand as given by the manufacturers are: Its great economy, due to passage of flame over the entire shell and back over the head of the boiler before entering flues. Fire travels three

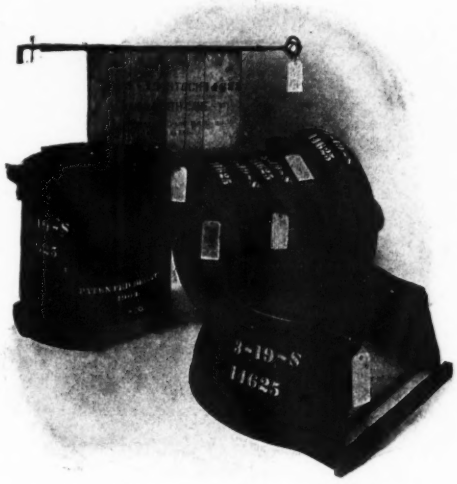


The Herbert patent detachable fire-box boiler.

times the boiler's length. The capacity of the boiler is increased twenty-five per cent, and the fire-brick lining and the bridge wall in the fire-box are eliminated. The flues and all parts of the boiler can be cleaned with ease. The boiler has unusually rapid steaming capacity on account of the perfect circulation between rear of boiler and the box. The ease by which boiler may be handled and set in place, as two parts are shipped separately, allowing entrance through ordinary sized openings. In case of deterioration in the fire-box (which is often the case with the common fire-box, especially in wet basements) the Herbert fire-box can be replaced at less cost than the average bill for one patch, making the boiler as good as new. The Herbert boilers are made in sizes to fit every known requirement, and the manufacturers are authority for the statement that in their many hundred installations of this type of boiler they have not had a complaint. Those who are not yet posted on the merits of these boilers can obtain this new pamphlet and further particulars from the manufacturer upon application, mentioning this journal.

Prompt Shipments.

In the season of greatest activity delayed shipments frequently work hardship to "the man on the job" and the houseowner.



An average size Arco Round Boiler ready for shipment.

We have thirty warehouses conveniently placed over the country to distribute IDEAL Boilers and AMERICAN Radiators without loss of time, and make an especial effort to have all shipping service prompt and reliable.

AMERICAN RADIATORS & IDEAL BOILERS

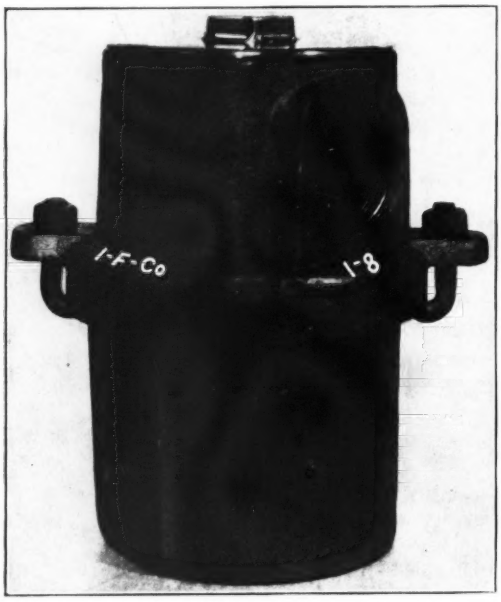
AMERICAN RADIATOR COMPANY

General Offices, 282-286 Michigan Ave., Chicago.

New York	Cincinnati	Cleveland	Atlanta	Baltimore	Denver
Philadelphia	Boston	Milwaukee	Minneapolis	Seattle	St. Louis
Pittsburg	Buffalo	Indianapolis	Kansas City	Omaha	

The Barker Adjustable Drum Trap.

The Iowa Fitting Company, of Marshalltown, Iowa, has just placed a new drum trap on the market under the name of the "Barker Adjustable." The trap is made with solder nipples ready to connect to lead pipe



The Barker adjustable drum trap.

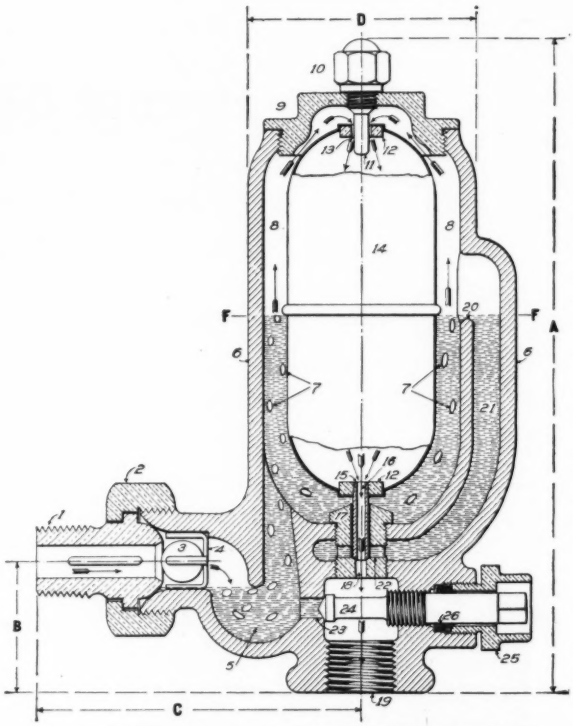
or to screwed wrought iron pipe, and it is furnished with plain, vented or adjustable covers. The trap is all that its name implies and a good idea of some of its desirable features can be obtained by a glance at the accompanying illustration. The manufacturers will be glad to send interested parties full particulars about this and their other valuable plumbing specialties on application mentioning "Domestic Engineering."

The Monash Radifier Valve.

The Monash-Younker Company, of Chicago and New York City, has just brought out a new valve or trap under the name of the Monash radifier valve, which, when placed upon a vacuum system, will constantly drain off the water of condensation, oil, grease and floating sediment, and thus do away with any danger of caking or clogging of the system or valve. This valve can be used on vacuum systems where a pump is attached to the return end of the system, and the manufacturers state that there is no royalty to be paid to anyone for the use of such a vacuum system.

The many desirable features of this valve will readily be noticed by a study of the accompanying sectional view in connection with its "key" and the following explanation of the valve's operation:

The valve is attached to the return end of the radiator by the union nipple (1) and nut (2) and to return pipe by threaded outlet (19). This return is connected with the vacuum pump. The air and water of condensation are drawn by the vacuum from the radiator into the Radifier through the union nipple (1) past ball check (3) and down into goose neck trap (5), where any core, sand or heavy dirt is deposited. Passing upward into the body (6) of the valve the air bubbles (7) separate from the water and are drawn to the top of the body through the air space (8). Thence the air is drawn through the opening (13) in float reinforcement (12) around guide pin (11) into float (14), through the float to lower end and out through opening (16) in outlet valve pin (15) and opening (18) in valve seat (17), thence to outlet (19) and return pipe to vacuum



Key to Sectional View of the Monash Radifier Valve.

1. Radiator connecting nipple.
2. Union nut.
3. Phosphor bronze ball check.
4. Copper basket for 3.
5. Goose neck trap and sediment chamber.
6. Outer wall of valve body.
7. Air bubbles in water of condensation.
8. Air chamber in body.
9. Cover of valve.
10. Cap.
11. Guide pin for float. Part of cap 10.
12. Float reinforcement.
13. Air passage at top of float.
14. Open copper float.
15. Outlet valve stem and float guide pin.
16. Air passage in 15.
17. Valve seat and float guide.
18. Outlet from valve seat.
19. Outlet pipe connection.
20. Separating wall of water outlet passage.
21. Water outlet passage.
22. Water port in 17.
23. By-pass inlet.
24. By-pass stem.
25. By-pass gland and lock shield.
26. By-pass packing.
FF. Float line and water level.

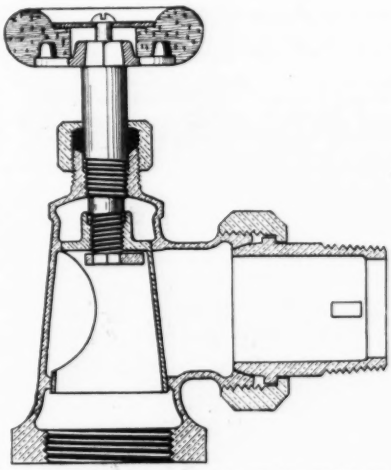
pump. Water of condensation, oil, grease and floating sediment are drawn into the body of the valve, filling it to float line (FF). When enough water has been drawn in to rise above float line (FF), the float (14) is raised by the water, and the valve in (17) is opened. The water then is drawn into water outlet

passage (21) and through port (22) in valve seat (17) to passage (18) and outlet (19) to return pipe. When the water has been drawn off to a little below the line (FF), the float drops again and valve in (17) is closed. A certain quantity of water always remains in the valve, thus preventing the discharge of any steam. Since the discharge is from the top of the water in the valve, the oil, grease and floating dirt are skimmed off, thus doing away with any danger of their caking and clogging the valve. The phosphor-bronze ball check (3), held in place by the copper basket (4) and seating in union nipple (1), prevents the vacuum in the radiator reacting on the vacuum in the return and causing the float to chatter when the radiator supply valve is closed. Dirt or sediment deposited in goose neck trap (5) is removed by opening by-pass valve (24) and drawing it out through the passage (23) to outlet (19) and return pipe. The gland (25) which compresses the packing around the by-pass stem also serves as a lock shield, preventing unauthorized persons from tampering with the valve.

Additional information concerning this valuable device can be obtained from the manufacturers upon request mentioning "Domestic Engineering."

The Lavigne Hot Water Radiator Valve.

The new hot water radiator valve whose design and appearance show a marked departure from the regular types has recently been placed on the market by the Lavigne Manufacturing Company, of Detroit, Mich. By reference to the accompanying sectional view it will be noticed that the shell or disc is of conical shape and that the body of the valve has a similar form. The stem has a right-hand thread cut on its lower end,



Sectional view of the Lavigne hot water radiator valve.

which engages with the upper part of the shell. A little higher up on the stem a left-hand thread is cut, which engages with the neck of the valve body.

When the stem is turned to the right the shell is

CAPITOL BOILERS AND RADIATORS

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An article with exclusive merit is in reality beyond competition, easier to sell because of the exclusive logic, argument and inducements. For instance, in **Capitol Boilers** you have these strong selling points:

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These are invincible arguments to the consumer, because they include just what he desires.

Capitol Boilers and Radiators are liberally advertised in the standard magazines, and remember, are sold exclusively through the trade. We should like you for a customer. Send for Catalog and Price List.

United States Heater Company.

General Offices and Works: Port St. and Campbell Ave., DETROIT, MICH.

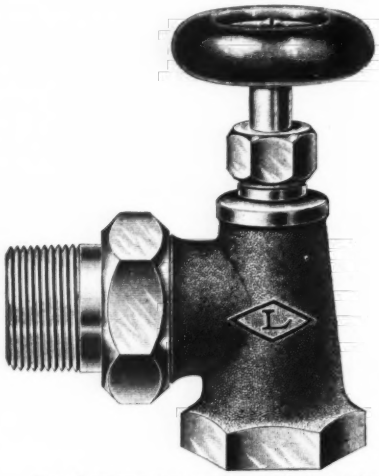
Branches:

DETROIT	139 Jefferson Ave.
NEW YORK	129 Worth St.
CHICAGO	34 Dearborn St.
KANSAS CITY, MO.	120 W. 11th St.
OMAHA, NEB.	916 Farnam St.

Sales Agencies:

ST. LOUIS, MO., L. M. Rumsey Manufacturing Co.
DENVER, COLO., Kellogg & Stokes Stove Co.
MINNEAPOLIS, MINN., Plumbing & S. F. Supplies Co.
NORFOLK & RICHMOND, VA., Virginia-Carolina Supply Co.

revolved to close the opening and at the same time is drawn upwards, making a very tight joint. When it comes to opening the valve the benefit of the combination of right-hand and left-hand threads becomes apparent, for no matter how tightly the valve may be closed, it can be opened by a very slight effort. The



The Lavigne hot water radiator valve.

first portion of the reverse motion releases the shell by forcing it slightly downwards and the balance of the half-turn revolves the shell very easily. On account of the shape of the shell and the fact that it is drawn upwards when closing it becomes practically steam-tight, and so, in addition to its use as a hot water valve, it can also be used in connection with low

The Lavigne hot water globular valve.

pressure steam work. The shape adopted for the body enables the manufacturers to embody these improvements in a valve of moderate price, as the metal is so arranged as to give greater strength to the parts affected by the strains of service than in the ordinary style.

For those who desire to secure the best possible hot water valve, they offer one with globe shaped body, shown in lower illustration. The shell and stem in this globular valve are exactly the same as are used in the bell shaped pattern. These valves have been very favorably received, and in order to maintain a reasonable stock so as to insure prompt deliveries, the manufacturers have been running full force from the beginning, and have also had a night force working since early in August. A pamphlet fully describing their steam and hot water valves, also their new packless valve will be sent promptly upon request to any interested reader of "Domestic Engineering."

Patents

899,077. Relief-Valve. John W. Rowe, Somerville, Mass., assignor to Norwall Manufacturing Company, New York, N. Y., a corporation of Illinois.

899,078. Heating System. Herbert Salmon, Cassopolis, Mich.

899,111. Automatic Air-Valve. George D. Hoffman, New York, N. Y., assignor to Norwall Manufacturing Company, Chicago, Ill., a corporation of Illinois.

899,117. Valve-Handle. Walter P. Marble, Cambridge, Mass.

899,221. Pipe-Fitting. Fisel Kimche, Detroit, Mich.

899,289. Apparatus for Purifying and Humidifying Air. William G. R. Braemer, Buffalo, N. Y., assignor to Warren Webster & Company, a corporation of New Jersey.

899,291. Vent-Pipe Attachment. John H. Brown, Keene, N. H.

899,330. Fire-Nozzle Attachment for Valves. John D. Schierloh, Jersey City, N. J.

899,378. Force-Feed Lubricator. George W. Bird and Hoyt Akins, Statesboro, Ga.

899,388. Water-Heater. John J. Divekey and Charles M. Genthner, Aurora, Ill.

899,458. Pumping Apparatus. George J. Murdock, Newark, N. J.

899,462. Air-Valve for Hydraulic Jacks. James W. Nelson and William H. Mathers, New York, N. Y., assignors to William M. Dudgeon, executor of Richard Dudgeon, deceased.

899,463. Hydraulic Pump. James W. Nelson, New York, N. Y.

899,471. Exhaust-Regulator. Olavis K. Rauk, Racine, Wis.

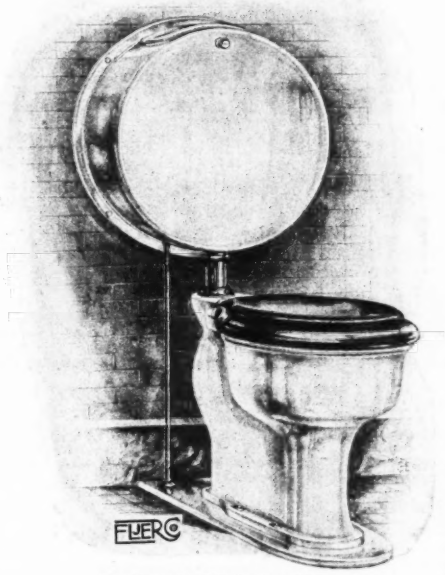
899,486. Supply-Valve for Flush-Tanks. Oscar F. Glidden, Grand Rapids, Mich.

On Living in the Present.

The preachers of simple philosophy say:
"'Dream not of the future—live wholly today."
But I find it exceedingly pleasant
With Winnie for comrade, in fancy to roam
To the time when her pa will present us a home,
For then we shall live in the present!

—Lippincott's.

COSTS MORE BUT WILL LAST A LIFETIME



PATENTS NOW PENDING
Both mechanical and design

ELJER China Tank

Same material as bowl with no metal linings to corrode or leak. No wood to open up at joints or become saturated with foul dampness. Extra heavy fittings throughout.

ELJERC

CAMERON
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Trade Literature

From the Sloan Valve Company, 203-207 South Canal street, Chicago: "Sloan Flushing Valves," a neat 20-page catalogue, 5x7½ inches, containing in brief and concise manner complete descriptions of the Sloan flushing valves for water closets, urinals and all other plumbing fixtures that require flushing with a regular amount of water. The descriptions are elucidated with many high-grade half-tone illustrations, making the construction and operation of these valves easily understood and giving the reader a good idea of their handsome appearance. A single movement of a handle or push button operates these valves, causing a complete flush, which can be repeated as soon as finished; but the amount or duration of a flush is not increased or diminished by holding or other manipulation of the handle or push button, thus preventing waste of water, a saving especially desirable where water is metered or pumped to supply tanks, as in high buildings. A unique feature of the valve is that it does not require regulation of any kind, as its operation is unaffected by variations in supply pressure, although it can be used with any pressure under 10 pounds, i. e., from pressures too low to flush a water closet effectively to pressures too high to be used for that purpose. Other desirable features about this valve is its noiseless operation and the fact that it is capable of instant use with ease and convenience, that it is operated by direct supply without the use of storage tanks and has no complicated parts or pistons to get out of order. Parties who are not yet familiar with these up-to-date devices can obtain a copy of this handsome catalogue upon a postal request mentioning "Domestic Engineering."

Father, Dear Father, Come Home!

Father, dear father, come home with me now,
The clock on the dashboard strikes one!
Don't fuss with the car any longer, papa,
You can't get the old tub to run!
The cylinder's cracked and the timer won't work,
And mother's been waiting since tea,
So tether the car to a post, father dear,
And come home on the trolley with me!
Come home, come home—etc.

Father, dear father, come home with me now,
The speed meter clock's striking two!
The night has grown colder; the rear tire's flat,
And mamma may fret about you.
The cam shaft is twisted, the pump's out of gear;
Perhaps before morning shall dawn,
Ma may grow real angry and want a divorce—
Come quickly, or she may be gone!
Come home, come home—etc.

Father, dear father, fly home with me now,
The clock's striking three—it's struck out!
Don't fool any more with magneto and coil;
The wires have grounded, no doubt!
The child's plea was answered—the answer was short,
Which the night winds repeat as they roam;
The gas tank exploded—some noise and some smoke,
And father and daughter blew home!
We're home, we're home!—etc.

—Judge.

Domestic Engineering

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Copy and cuts for advertisements should be received by the last day of the week preceding publication. We cannot guarantee insertion or changes in advertisements if received later.

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To subscribers in Canada and foreign countries within the postal union, $2.00 a year.

Single copies of current issues, 5 cents; copies of back numbers, 10 cents each.

Subscriptions are payable in advance, the regulations of the Post Master General forbidding the extension of credit for subscriptions.

October 3, 1908

CLASSIFIED ADVERTISEMENTS

The rate of advertising under this heading is 10 cents a line an insertion. The average advertisement runs six words to a line. To insure insertion in this column copy should be received not later than Wednesday afternoon.

Help Wanted.

WANTED—FIRST CLASS SALESMEN IN every locality calling on the plumbing trade, to sell an A-1 plumber's tool. Answer, giving territory covered, to Aztec Mfg. Co., 205 Tehama St., San Francisco, Cal.

WANTED—BOILER AND RADIATOR salesmen who have traveled Pennsylvania, West Virginia, Ohio, Indiana and Eastern Illinois; state average yearly sales and salary expected. No. 928, "Domestic Engineering," Chicago.

WANTED—High grade men in every large city in the U. S.; large acquaintance with architects and consulting engineers essential. We give exclusive territory to competent men who can write contracts for our Automatic Steam Vacuum pump (maintains high vacuum on any Steam Heating system with only one ounce of pressure; or as long as there is any fire in the furnace). Automatic Vacuum Pump Company, 121 N. 8th st. St. Louis, Mo.

EXCEPTIONAL OPENING in a good, clean heating and power construction contracting business in Chicago, established 15 years, for an energetic, experienced man capable of getting and managing the business. Must be right kind of man with $2,500 cash for purchase of good working interest, money all to stay in the business, salary according to ability. Answer only if you mean business and can fill the requirements. No. 953, "Domestic Engineering," Chicago.

JOBBERS! SALESMEN! ARE YOU interested in the sale of the best line of plumbers' brass goods of its kind on the market? Goods staple and active; to be handled as a side line; sales can go through your house. Commission 10 per cent on sales; jobbers salesmen are making $25 to $40 weekly on our line; an excellent proposition. Write at once for particulars. Address No. 950, "Domestic Engineering," Chicago.

For Sale.

FOR SALE—WELL ESTABLISHED plumbing and sheet metal business in town of 6,000 inhabitants, within 75 miles of Dallas, Tex. No. 940, "Domestic Engineering," Chicago.

FOR SALE.—GOOD PLUMBING and heating business in thriving town in southern Nebraska. Must sell on account of health. Address No. 947, "Domestic Engineering," Chicago.

FOR SALE.—ONE OF OUR HUNdred horse power Warren Webster feed water heaters, safety valve grease controller, complete; used six months; reasonable. Address M. J. Hawkins, Albany, N. Y.

PLUMBING BUSINESS FOR SALE—In 18,000 Michigan town, old and well established plumbing, heating and electric wiring business; best of reasons for selling. Will require about $5,000.00 capital; a business proposition if you mean business. Address No. 936, "Domestic Engineering," Chicago.

FOR SALE—THE PLUMBING, steam, hot water and gas fitting business of Kuehn & Co., 1807 Farnam St., Omaha, Neb.; valuable business on hand and trade second to none in the city. Inventory and acceptance of existing contracts basis for sale. By order of V. B. Caldwell, executor of estate of Fred G. E. Kuehn.

FOR SALE—AN OLD ESTABLISHED business consisting of hardware, stoves, ranges, wire fencing, tin ware, with a plumbing and tin shop in connection; located in a thriving New York village of 6,000; stock will run from $6-7,000; shop employs from four to seven men; store is next door to postoffice; good reason for selling. For particulars address No. 922, "Domestic Engineering," Chicago.

Agencies Wanted.

WANTED — BY EXPERIENCED Heating and plumbing salesman, manufacturers' agency for a first class line for Western Iowa and Nebraska; established trade; best of references. No. 951, "Domestic Engineering," Chicago.

EXPERIENCED AND RESPONSIble salesman desires to represent in Chicago manufacturers of plumbers' or steam specialties salable to jobbers, the trade or to consumers; nothing trifling considered; highest references. Address No. 944, Domestic Engineering, Chicago.

Plumbers' Specialties

PLUMBERS' RUBBER, BRASS AND leather specialties. We are headquarters for pipe hangers; special prices on application. Plumbers' Specialty Mfg. Co., 119 N. 11th St., St. Louis, Mo.

Plumbing Schools.

EARN $5 A DAY—LEARN TO BE a plumber in from 4 to 6 months on easy payments. For particulars address Master Plumbers' Trade School, 3402 Lindell Ave., St. Louis, Mo.

BUYERS' READY REFERENCE

Brass Castings.

We are equipped to do your casting in brass, bronze or special metals. Get our prices. McCambridge & Company, Philadelphia, Pa.

Water Closets.

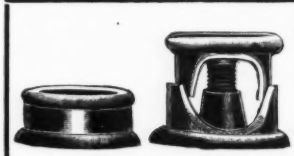
THE R. C. McCLURE CO., SYRAcuse, N. Y. Mfrs. of the very highest grade of Water Closets. Send for booklet.

Rack Labels

Practical for Plumbers

They are mighty good things, ought to be in every shop. Easily applied to shelves, racks or drawers. Shows what you want at a glance, no more guessing or delayed customers. Not only tells the article but illustrates it. Systematizes and facilitates stock taking, gives a neater and smarter appearance to shops. It's a money saver! Printed on water-proof card in plain readable type. Prices low—prices direct or from F. W. Webb Mfg. Co., Elm St., Boston, Mass.

MERCANTILE LABEL CO.
NASHUA, N. H.



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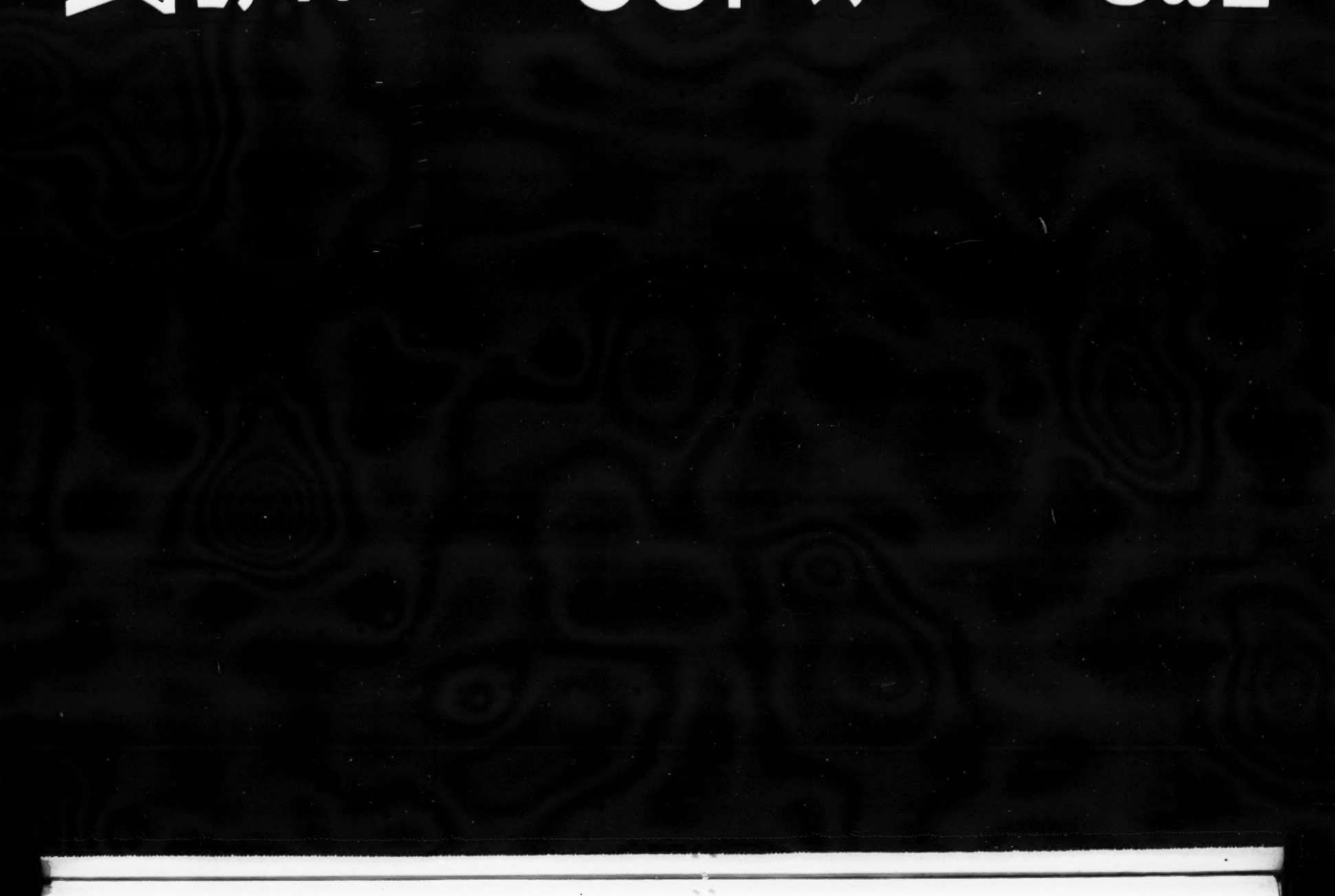
Sold by Jobbers

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Put into the White House by the United States Government
For Venting use Vent Trap. CLEVELAND, O.